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THE NEBRASKA STATE MEDICAL JOURNAL

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The Priceless Heritage of Medical Freedom*

DR. EDWARD H. SKINNER
Kansas City, Missouri

I am a representative today of the National Physicians' Committee for the Extension of Medical Service. Whether you know it or not, the National Physicians' Committee is your organization. It is just as much your organization as the American Medical Association represents you in the scientific phases of medicine. Upon the next to the last page of the little brochure entitled, "The Two Essentials For American Medicine," we have told you why a new organization is necessary to represent you in a public approach to a lay educational program which cannot possibly be done by the American Medical Association.

Just as the coming of new types of microscope, of the electron microscope, new types of physical therapy, new types of chemotherapy, and other new discoveries in medicine make possible a tremendous advance in the campaign against disease, so also does the coming of new machinery for popular education make possible the dissemination of vast amounts of information in a way never previously possible. And it would be very unfortunate indeed if modern medicine failed to realize that it must be scientific in its ultilization of these new tools of publicity and information and education of the public.

In order to personalize this organization to you, I would cite to you the membership of this Board of Trustees; there are past presidents of the American Medical Association; there are any number who are members of councils of the American Medical Association; there are a number who are members of the House of Delegates from their various state organizations or the specialty groupings. The National Physicians' Committee has attempted, and will continue to try to be an approach to the education of the American people upon the functions of the American Medical Association and the functions and methods of the members of the medical profession.

Now, in order to show that it is possible, upon even unimportant things, to make an impression upon all the people of a country, may I cite to you two glaring examples of success? The success, for instance, of the Life-Saver Company. Now, I don't need to explain what a life-saver is, but I might tell you that in 1913 a gentleman started with the idea of making these small circular candies with a hole in them and that by 1939 he had a four million dollar business throughout America. Nor need I tell you that the Wrigley Gum Company, which started many years ago 'tis true, but, even though they were selling a product which was not popular; a product which was not recognized among the elite; a product which only gummed up the desks for school teachers; a product which gummed up the pews for the preacher; that, even with these handicaps, the present yearly output of the Wrigley Gum Company totals a matter of thirty-nine million dollars. So, I think by these two examples, one might be able to indicate to you that it is possible by a continued, a persistent effort, to bring a whole people to support a program—whether it is a program they chew between their teeth, or crunch, or whether it is a program which shows to them certain definite ambitions and freedoms.

Now, this idea of taking a single idea and selling it to a whole people is an interesting proposition, and those of us who have been working upon this committee of the National Physicians' Committee have become more or less familiar with the progress of successful ventures in selling a whole people upon a project or upon an idea, and, therefore, the National Physicians' Committee has picked out three ideas that they are attempting to promote into the consciousness of American people so that they may realize that the medical profession has done something for their benefit, and it is something for which they should be rewarded, and it is something worthy of support.

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*Read before the 73rd Annual Convention of The Nebraska State Medical Association, Lincoln, May 8, 1941.

We have chosen just three items of fact and these are that, in the 150 years of American independence, the life span of people in America has been doubled. Now, that is a simple proposition that we have been familiar with, but it is a big proposition to an individual, or to groups of individuals, to whom we are attempting to sell an idea that the American medical profession, and the way in which medicine has been practiced in America, and the standards that the American Medical Association has erected, projected and established and obtained support for, is worthy of support.

The first item is, and we have used this item constantly, that 150 years of American independence has seen the doubling of the life span. We, also, show that in 1900, only 40 years ago, the death rate in the United States was 1,755 per 100,000 of population and that now the death rate is 1,069. Therefore, while that is not a half reduction, it does show what tremendous progress has been made through the methods of medical practice that you and I, and the great men before us, have used in order to practice medicine successfully in the United States. The third item is that any child born today lives 12½ years longer than a child born 40 years ago.

Now, the National Physicians' Committee has attempted to sell these three ideas. You can't take all of the things that you and I know are a part of the progress of medicine or a part of the success of the practice of medicine. We must pick out certain items; so we have focused attention upon these three items that can be easily understood, that are dramatic, and that will influence people one way or another toward an appreciation of the medical profession of the United States.

As a means of selling this idea we used first spreads in the Saturday Evening Post of two items. Now, these two items cost us a pretty penny. As a plain, garden variety practitioner of medicine, it staggered me—the cost of these two spreads in the Saturday Evening Post—which were timed, we had special help, we had expert help in choosing the construction and the timing of these advertisements in the Saturday Evening Post—they cost us nearly fifty thousand dollars. The reason why we chose the Saturday Evening Post was because it is a weekly journal which has a circulation of more than three and one half million and it is also a weekly journal which stays upon the table longer than any other weekly journal. Many of your patients of fifteen years ago are reading the continued stories that were started about that time.

The next point was that we timed the publication of these two spreads so that one came out ahead of the Republican convention last year and the next came out just ahead of the Democratic convention. After this publication something happened—and this something that happened was something we couldn't have realized was going to develop, because what happened was more than we could have conspired to achieve.

About ninety metropolitan newspapers throughout the country published full page reproductions of the original Saturday Evening Post spreads. These were financed by the local profession, by druggists, by other interests who want to support the medical profession. They appeared in newspapers all the way from the Atlantic to the Pacific Coast. I have in my hand about one-fifth of the number of pages that we have from those newspapers, and these come from—here's one from Huntington, Virginia; here's one from the Charlotte Observer; Sterling, Colorado; Danville, Illinois; Ottowa, Illinois; Wichita Beacon, Nassau Herald, Dallas, Fort Worth, Portland, Rochester, and Portland, Oregon.

This is an indication to you of what profit we got out of that printing in the Saturday Evening Post. It was perfectly remarkable to me, because this was copied and used in so many papers that we found we had an audience not of the 3½ million we planned in the Saturday Evening Post, but really an audience of at least fourteen million people through these additional pages. And, if you say that the monies that the doctors subscribe to the National Physicians' Committee paid for this, I can tell you that we obtained the money for this from certain large drug houses and those who were interested in our program and who subscribed the total amount, so that you cannot say that the monies subscribed by physicians were spent upon these advertisements in the Saturday Evening Post.

Now, the next thing we did was to arrange to have, each week, simple editorials upon medical progress, different items of interest in medical progress, distributed to all the newspapers of America. You wonder how that could be done. Well, it was a marvelous thing to me. I have gotten a swell education in numerous methods of distributing educational publicity that gets results.

These weekly editorials are sent each week to more than 12,000 newspapers. We started these on January 27th with an item, "The Spoils System and Public Health;" and then came "The Battle Against Time," "Free Enterprise Medicine," and then we had one "Medicine for the Needy," "Ferreting Out the Flu," "You Are Lucky Today,"—these are written by trained men who are specialists in writing fit, small, brief editorials which will be read. Out of that has come a result that has been startling. Here I have just another group of clippings that they allowed me to have, showing how many of these have been copied in the newspapers throughout the United States. In this group I have some from Nebraska newspapers; I have a group from Texas newspapers; I have a group here from several states right around here, and these have been divided up among us too, but these are used as unsigned editorials in these country newspapers.

All of these editorials we send out are applicable and useful, and it is surprising how much they are used. We know that, out of the 12,000, this is enough indication for us to know that we are getting the story of American Medicine and its accomplishments to the people. This is a listing that is given us of newspaper clippings and it shows, throughout all of the states of the United States, how many of these editorials have been used up to a certain time.

Now, I cannot take as much time as I would like to on this whole project. There has gone out from the Committee to the secretary of every country medical society a file of photostats of the entire set of correspondence that was used by the physicians of Houston, Texas, in creating a committee from that single society to effectively co-operate with the National Physicians' Committee. It will be absolutely essential to have money to carry through a project of this type. You can't run this by love; you can't get a government loan for it by hook or crook; and it isn't a W. P. A. project—it is a project for the preservation of those freedoms that you and I have established and have enjoyed in the practice of medicine in the United States.

We will have to finance this program ourselves. We can depend upon a great deal of help from manufacturers of medical products that you and I use and dispense. They realize the merit of a program of this kind. You and I really have to be educated ourselves to the usefulness of a program in lay education. This is a program that cannot be taken care of by the American Medical Association as it is constituted today. I don't intend to read to you or recite to you those various reasons, but I do invite you to read this yellow booklet—this booklet that has come out in brown print—because it does show the very definite reason why it cannot be done unless we do it ourselves as an additional contribution to the perpetuation of the priceless freedoms that you and I have enjoyed. I feel that this is a magnificent document. This document is right up to the moment. It gives you the reaction upon the Washington scene with the recent verdict which has not yet been carried through to the higher courts, and it does indicate to you that there must be some code of conduct which may be authorized.

Now, as I say, to each county medical society has gone out a very practical plan by which funds have been raised within the county medical society as voluntary contributions toward the support of the National Physicians' Committee for the Extension of Medical Service. It is really necessary for the secretary to have help on this. If every secretary of the county medical society in the United States is an individual of the same type as the secretary of the Jackson County Medical Society of Kansas City, in which I live, I can guarantee to you that nothing will be done unless he is aided. Therefore, I insist that it is necessary for those of us who do feel that a program like this is necessary to take the initiative. You should get this material from the secretary because we cannot afford the mailings to 157,000 physicians—that is a tremendous item of expense—and so we have sent this out to the secretaries alone. Well, there are a matter of 2,000 secretaries of county medical societies in the United States, and that's quite an item of expense. We are frugal, I insist, after we got over that first splurge in the Saturday Evening Post—that splurge still gets under my hide—but I know that the results from it have been worth the cost. It is necessary for those of us in our own county medical societies to form a committee which will industriously proceed to provide the funds for the financing of the National Physicians' Committee.

It is absolutely necessary for us to have a backlog of at least $200,000 a year. Now that means $10 a year from 20,000 physicians. There are 116,000 physicians in the American Medical Association. You can take your own percentages, if you want to. This may not be financed by those who are struggling, but there are plenty of physicians who are quite affluent to whom a matter of $10 to $100 a year would make no particular impression, especially in the days in which we are going to deal it out more and more.

We have got to save whatever freedom we have won. There is no chance whatever—you will see that—unless we do a job like this which preserves some of the freedoms of medicine within a democratic framework of government that there will be nothing to save. What chance would you have in Russia, in Germany, in Holland, in Belgium, in any one of these spots? You wouldn't have a ghost of a show. You wouldn't have a medical society of a democratic character in which you elect delegates from your county medical society, from your state medical society, and from your state society to the American Medical Association House of Delegates. You wouldn't have that opportunity —not in the least—and these freedoms, which we demand shall be preserved within this democratic form of government, are those which we may have to fight for more and more as a whole nation.

So, I feel that it is absolutely incumbent upon each one of us to take a personal responsibility, within our own county medical society, of contributing to the limit of endurance to a program of this type, in order to preserve some of those priceless heritages which you and I have established, have standardized, have made worthwhile, have made work, and which we know are the best for the people of America.

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IN THIS ISSUE

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Chemotherapy in Pneumonia*

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Even though the death rate from pneumonia in children may not be greatly effected, since it is already low, the shortening of the disease and the avoidance of complications justify the use of drug therapy. There are two important forms of pneumonia in infancy and childhood. Most common is the lobar type. This disease frequently follows an infection of the upper respiratory tract. It often begins suddenly, perhaps with a convulsion. The first evidence of illness may be a very flushed face, listlessness, drowsiness, and lack of desire to nurse or play. The infant especially is flushed and prostrated. Breathing is rapid, often with grunting sounds. The temperature rises to high levels and pulse rate and respiration rate rise in proportion. There is often no cough and sputum is rarely seen since it is usually swallowed. The diagnosis by clinical evidence alone may be difficult. The causative organism is the pneumococcus.

Atypical or bronchopneumonia is far more common in infants than in older children. The disease is usually secondary to bronchitis or to various contagious diseases. It is often caused by the aspiration of bacteria laden secretions. The clinical findings are variable and vague. The onset is gradual and may merge with the primary condition. The fever rises gradually and is irregular. It is seldom as high as in the lobar form. The pulse rate and respiration are rapid and become feeble in severe cases. Cough appears, increases and is productive of thin or thick purulent sputum which is usually swallowed. Physician examination of the chest may only reveal coarse rales in both lungs. The bronchopneumonia is caused in 80 per cent of cases by pneumococci in pure form or mixed with other bacteria. It is therefore relatively unimportant to determine whether the pneumonia assumes the lobar or atypical form. It is of far more importance to determine the species and type of the causative organism in order to institute specific treatment promptly if it is necessary.

Sulfanilamide was the first drug to be employed. It was found to be of little help in the pneumococcus infections but of significant value in the sterptococcus infections. Therefore it was administered to the infants and children at the Minneapolis General Hospital with pertussis or measles whenever there was the slightest evidence of a complicating bronchopneumonia. The results were most encouraging and this led to the use of the drug at the onset of these contagious diseases as a means of preventing complications. The sulfanilamide was given orally in doses which may be observed in the following schedule.

Patient's Weight	Initial Dose	Maintenance Dose
10-25 lbs.	Grains X (10)	Grains IIss (2½) every 4 hrs.
25-30 lbs.	Grains XV (15)	Grains V (5) every 4 hrs.
30-40 lbs.	Grains XX (20)	Grains VIIss (7½) every 4 hrs.
40-50 lbs.	Grains XXV (25)	Grains X (10) every 4 hrs.
50-60 lbs.	Grains XXX (30)	Grains XIIss (12½) every 4 hrs.
60-70 lbs.	Grains XXXV (35)	Grains XIIss (12½) every 4 hrs.
70-80 lbs.	Grains XL (40)	Grains XIIss (12½) every 4 hrs.
80-90 lbs.	Grains L (50)	Grains XV (15) every 4 hrs.
90-100 lbs.	Grains L (50) to	
Over 100	Grains LXXX (80)	Grains XV (15) every 4 hrs.

Sulfapyridine was the first drug to give satisfactory results in the pneumococcus infections. It is a white crystalline powder which is relatively insoluble in water. The preparation can therefore only be administered orally and is supplied in capsules and tablets. It is absorbed fairly rapidly from the gastro-intestinal tract, although not in such constant amounts as sulfanilamide. Within a short time after administration, sulfapyridine may be detected in the blood by means of a test in which it is transformed into a colored dye substance. This is then compared with known standards prepared from pure sulfapyridine. The drug was used during the year 1939 at the Minneapolis General Hospital for the treatment of many of the pneumonias among infants and children.

The response to sulfapyridine therapy was good in that a crisis or a marked fall in temperature was easily produced. Nausea and vomiting occurred in some of the children during the first day or two of administration. If the nausea and vomiting prohibited retention of a sufficient amount of the drug, the observation was made that this could in some instances be prevented or alleviated by certain expedients which vary in different individuals. In some patients the drug was better tolerated if the capsules were opened or the tables were pulverized and the powder suspended in fruit juice, sweet or malted milk. Occasionally these liquids were not very helpful, and other foods such as flavored gelatin, sweetened fruit sauces, mashed bananas, simple desserts or cereals with plenty of sugar had to be employed. Most of the children took the sulfapyridine very well along with the regular food of their meals. If food was already in the stomach, the drug caused little vomiting.

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**From the Minneapolis General Hospital Division of the Department of Pediatrics, the University of Minnesota.

During the year of sulfapyridine therapy, the dosage schedule was modified several times in order to make it more practical for the physicians in charge of the cases. Large initial doses were instituted. Those were to be continued for 24 to 48 hours depending on the appearance of the crisis. Then smaller amounts of the sulfapyridine were employed for a period of three to five days. A total of 141 infants and children received the drug. The duration of the pneumonia was definitely shortened and complications from the disease appeared to be reduced. There were only eight cases of empyema (5.67 per cent), all of whom recovered. Twelve deaths (8.51 per cent) occurred but none of these patients had pneumonia alone. In these instances the disease followed more serious conditions as is clearly shown in table I.

Table I.—Clinical and Pathological Findings in Addition to the Pneumonia in 12 Cases Dying in Spite of Sulfapyridine Therapy.

Case No.	Age	Remarks
1	3 mos.	Whooping cough
2	5 wks.	Whooping cough
3	8 yrs.	Lung abscesses
4	2½ yrs.	Laryngo-tracheo bronchitis (H. Influenza)
5	5 mos.	Intussusception with gangrene
6	1 mo.	Purulent bronchitis
7	10 mos.	Ulcerative colitis, generalized peritonitis
8	7 yrs.	Congenital megacolon and hydroureters
9	9 yrs.	Lymphatic leukemia
10	2 yrs.	Mongolism, congenital heart disease
11	12 yrs.	Head injury, small hemorrhages in brain
12	18 mos.	Mongolism, laryngo-tracheo bronchitis

The schedule of sulfapyridine dosages for infants and children which was developed was therefore considered to be satisfactory and is as follows:

Age	Single Dose	Capsules	Tablets	Interval	Total 24 hr. Dose
Below 6 mos.	2 grs.	½	¼	3 hrs.	15-16 grs.
6 mos.—1 yr.	3¼ grs.	1	½	3 hrs.	26 grs.
1-3 yrs. (incl.)	7½ grs.	2	1	4 hrs.	45 grs.
4-6 yrs. (incl.)	7½ grs.	2	1	3 hrs.	60 grs.
7-9 yrs. (incl.)	10-11 grs.	3	1½	3 hrs.	86 grs.
10-12 yrs. (incl.)	15 grs.	4	2	3 hrs.	120 grs.

One capsule equals 0.25 gram or 3¼ grains. One tablet equals 0.5 gram or 7½ grains. Dosages calculated on 1½ grains per pound of body weight (0.22 gm. per kilogram) each 24 hours.

Give above doses for 24 to 48 hours; then reduce doses by one-third for next 3 to 5 days. In severe cases, try total 24 hour dose at once on admission.

The 141 infants and children who received the sulfapyridine had remarkedly few complications from the drug. There was little cyanosis. A small number of the patients had hematuria of short duration. A few cases became extremely restless or delirious. This cleared up promptly when the drug was discontinued. Some of the children had a rather marked fall in the polymorphonuclear cells in the blood. These cases responded well to blood transfusions. In fact the complications were so easily controlled that the recommendation of sulapyridine therapy could be made without hesitation even though more clinical studies were indicated. Further observations were however not conducted on account of the fact that sulfathiazole—the thiazole analogue of sulfapyridine—was introduced.

This drug was found to be very rapidly and regularly absorbed from the gastro-intestinal tract. Once absorbed, sulfathiazole was not conjugated (acetylated) as much as sulfapyridine, thus permitting a large proportion of it to be therapeutically active. The excretion of sulfathiazole was, however, rapid and this shortened the period of therapeutic efficiency. Nevertheless, the drug could be given often enough so that there was a pronounced and satisfactory influence on infections due to staphlococci and pneumococci.

First thought was given to the establishment of a dosage schedule for infants and children. Most of the patients on the Pediatric service of the Minneapolis General Hospital with a diagnosis of pneumonia received sulfathiazole. Since the drug is poorly soluble it was administered by the oral route. During the year 1940, 169 cases were observed. This study was made quite complete. The diagnosis of the lung infection was determined on the basis of a good history, physical examination, and roentgenogram study. The latter was a part of the admission procedure. Many of the cases came into the hospital close to onset of the disease. Those children who had no physical findings over the chest at the time of admission, did reveal pneumonia on the roentgenograms. The distribution of the pulmonary involvement in the 169 cases was all follows:

Table II.—Location of the Pneumonia in 169 Patients Treated with Sulfathiazole.

Part of Lung Involved	No. Cases	Remarks
Right lower lobe	60	The majority of these cases typed indicating a specific pneumoncoccus infection. A few cases reveal a mixed bacterial infection.
Left lower lobe	31	
Right upper lobe	28	
Left upper lobe	4	
Right middle lobe	4	
Right parahilar	1	
Left parahilar	4	
Right upper and lower lobes	1	Many of these cases did not type. Quite a number of mixed infections were encountered.
Bilateral lobar pneumonia	4	
Right bronchopneumonia	3	
Left bronchopneumonia	3	
Bronchopneumonia	26	
	169	

Before the sulfathiazole was given the urine and blood of each patient was examined. This was followed by the bacteriologic study. An attempt was made to type all the cases employing the Neufeld method whenever pneumococci were found. Sputum specimens were usually obtained by aspiration with a bulb. When any difficulty occurred with this procedure, gastric specimens were used for typing. Occasionally the latter specimens were so contaminated that the typing was not satisfactory. The distribution of the pneumococcus types among the children treated with sulfathiazole is revealed in the following table. Note the predominence of types I, III, V, VI, VII, VIII, XIV, XVI, and XIX.

Table III.—The Pneumococcus Types in 169 Infants and Children Who Received Sulfathiazole.

	No. of Cases for Each Age Period					
	Below 1 yr.	1-3 yrs. (incl.)	1-6 yrs. (incl.)	7 9 yrs. (incl.)	10-12 yrs. (incl.)	Total
I, XVI, XVIII, XIX	--	--	1	--	--	1
I, XXIII	--	1	--	--	--	1
I, XXXII	--	1	1	--	--	2
III, XVII	--	1	--	--	--	1
V, X	--	1	--	--	--	1
V, XIV	--	--	--	--	1	1
VI, XV	--	1	--	--	--	1
VI, XIX	--	1	--	--	--	1
VI, XXIII	--	1	--	--	--	1
VII, XX, XXIV	--	--	1	--	--	1
XIV, XVII	--	1	--	--	--	1
XIV, XIX	1	--	--	--	--	1
XXII, XXVIII	1	--	--	--	--	1
I	2	2	4	3	5	16
II	--	1	--	--	--	1
III	1	4	4	--	--	9
IV	--	1	1	--	--	2
V	--	2	2	4	2	10
VI	3	5	1	2	--	11
VII	1	--	3	3	--	7
VIII	--	1	1	1	2	5
X	1	--	--	--	--	1
XI	--	--	--	--	1	1
XIII	--	1	--	--	--	1
XIV	3	5	4	--	1	13
XV	--	1	--	--	--	1
XVI	3	2	--	--	--	5
XVIII	--	1	--	--	--	1
XIX	6	5	3	--	--	14
XX	2	--	--	--	--	2
XXI	--	2	--	--	--	2
XXIX	1	--	--	--	--	1
XXXII	1	--	--	--	--	1
XXXIII	1	--	--	--	--	1
Untyped	7	19	12	7	5	50
						169

Various doses of sulfathiazole were tried and once the administration of the drug had been started, the patients were closely observed. Physicial examinations were frequently made. After 48 hours of drug therapy or at the time of first evidence of a critical fall in temperature, blood was drawn for a morphological study and for a determination of the free sulfathiazole content. Roentgenograms were also taken. The whole procedure was usually repeated on the first day of normal temperature and again on the last day of drug therapy. Repeated urinalysis were made on all the patients.

The response to the sulfathiazole therapy was most encouraging. Infants and children took the drug well. Although there were a few instances of nausea there was no vomiting. The drug was administered to infants by giving the powder, produced from crushing tablets, with fruit juice or milk and feeding by a teaspoon, and to children by the same method, or by giving the tablet whole with small quantities of sweetened fluids.

Fifty patients received an initial dose of 2 to 3 grains of sulfathiazole per pound of body weight (0.3 to 0.45 gm. per kilogram) per day in divided doses every 4 hours throughout the day and night. Within 24 hours after the drug was started 36 to 72 per cent of the cases had a critical drop in temperature and 25 or 50 per cent of the patients had a normal temperature. At the end of 48 hours all but three of the children had a critical fall in temperature and 45 or 90 per cent had a normal temperature (table IV). With a drop of temperatures to normal the dose of the drug was reduced to 1½ grain per pound (0.22 gm. per kilogram) and continued until the patients were free of fever for 72 hours. This usually required 3 to 5 days of drug therapy. The free sulfathiazole level of the blood determined by the method of Bratton and Marshall ranged between 2.0 and 18.5 mg. per cent (table V).

Seventy children were given an initial dose of 1½ grains of sulfathiazole per pound of body weight (0.22 gm. per kilogram) per day. At the end of 24 hours 56 or 62 per cent of the patients had a critical drop in temperature and 29 or 40 per cent of the cases had a normal temperature. Within 48 hours after the drug was started, the fever had disappeared in all of the children (table IV). With a drop in the temperature to normal, this dose was reduced to 1 grain per pound (0.15 gm. per kilogram) and administered a few more days. The level of the drug in the free state in the blood varied from 1.2 to 12.0 mg. per cent (table V).

Forty-nine patients received an initial dose of one grain of the sulfathiazole per pound of body weight and this dosage was not decreased at any time during the period of drug administration. Within 24 hours after the drug was started, 38 or 88 per cent of the vases had a critical fall in temperature and 26 or 53 per cent of the patients had a normal temperature. At the end of the 48 hour period, 47 or 95 per cent of the children had had their critical drop in temperature and 42 or 85 per cent had a normal temperature (table IV). The sulfathiazole was continued for 3 more days after the temperatures had reached normal. The total period of drug therapy was thus 5 to 6 days. The level of the drug in the free state in the blood varied from 0.8 to 8.7 mg. per cent (table V).

Table IV.—The Effect of Sulfathiazole Therapy on Temperature.

	Various Total Doses Per Day Based on Body Weight					
	2-3 gr. per lb. (0.3-0.45 gm. per kilogram)		1½ gr. per lb. (0.22 gm. per kilogram)		1 gr. per lb. (0.15 gm. per kilogram	
Critical Fall in Temp.	No.	%	No.	%	No.	%
Within 24 hours	36	72	56	62	38	88
Up to 48 hours	47	94	70	100	47	95
At end of 72 hours	50	100	--	---	49	100
Temperature at Normal Level						
Within 24 hours	25	50	29	40	26	53
Up to 48 hours	45	90	62	89	42	85
At end of 72 hours	50	100	70	100	49	100
Secondary Rise in Temp. in 18 children (10 per cent)	8	4	5	3	5	3

Table V.—Amount of Free Sulfathiazole in the Blood Determined by the Method of Bratton and Marshall.

Total Doses Per Day Based on Body Weight	Number of Cases	Range of Drug in Milligrams Per Cent
2-3 gr. per lb. (0.3-0.45 Gm. per kilogram)	50	2.0 to 18.5
1½ gr. per lb. (0.22 Gm. per kilogram)	70	1.2 to 12.0
1 gr. per lb. (0.15 Gm. per kilogram)	49	0.8 to 8.7

All ages of children were fairly well represented in each of the groups (table VI). The careful clinical observations of the cases together with the frequent roentgenogram examinations revealed that the course of pneumonia in practically each instance was definitely shortened. Resolution of the pneumonic infection began about the third or fourth day, was usually under way to a fair degree by the fourth or fifth day, was quite well advanced by the fifth to the sixth day, and in some cases completed by the seventh to eighth day. The critical drop in temperature preceded the beginning of resolution by 12 to 24 hours.

Table VI.—Various Amounts of Sulfathiazole Employed in the Treatment of the Children with Pneumonia.

	No. of Cases for Each Age Period					
Total Dose per Day Based on Body Weight	Below 1 yr.	1-3 yrs. (incl.)	4-6 yrs. (incl.)	7-19 yrs. (incl.)	10-12 yrs. (incl.)	Total
2-3 gr. per lb. (0.3-0.45 Gm. per kilogram)	15	16	10	5	4	50
1½ gr. per lb. (0.22 Gm. per kilogram)	12	29	18	7	4	70
1 gr. per lb. (0.15 Gm. per kilogram	5	12	15	10	7	49
						169

There were only two cases of empyema (1.18 per cent) which were easily controlled and recovery was uneventful. Six patients (3.55 per cent) receiving sulfathiazole died, but they all had more than just the pneumonia. In fact the lung infection was more or less a terminal condition present in children with serious illnesses as can be seen in table VII.

Table VII.—Clinical and Pathological Findings in Addition to the Pneumonia in 6 Cases Dying in Spite of Sulfathiazole Therapy.

Case No.	Age	Remarks
1	2 mos.	Paralytic ileus and interstitial pancreatitis
2	3 mos.	Mongolism, hydronephrosis and hydroureter
3	1 yr.	Laryngo-tracheo bronchitis
4	6 yrs.	Schilders' disease
5	3 mos.	Congenital heart disease
6	6 mos.	Papillomas of larynx

The 169 infants and children who were given sulfathiazole had no marked toxic reactions from the drug. Fever and cutaneous eruptions were absent because the therapy was not continued beyond seven days. There was no evidence of any genito-urinary tract irritation such as hematuria or anuria. The most disturbing feature of the chemotherapy was the appearance of a drop in the polymorphonuclear blood cells, sometimes referred to as acute leukopenia with granulocytopenia. This occurred in 12 cases listed in table VIII beginning usually after the sulfathiazole had been administered for 48 hours and continuing for 3 to 5 days. With the removal of the drug, the white blood cells immediately began to rise, often reaching the normal figure in one week. There were no serious blood complications.

Table VIII.—The 12 Cases Revealing Acute Leukopenia with Granulocytopenia.

	Dose per Day Based on Wt.		Actual Amt. of Drug Received by Each Patient		Adm. Counts		Sub Counts	
Age	Gr. per lb.	Gm. per kilo.	Gr.	Gm.	White Blood Cell*	Pmn. Diff. **	White Blood Cell*	Pmn. Diff. **
3 yrs.	2	0.3	255	17	20000	80	5350	39
6 yrs.	2	0.3	390	26	20000	80	6000	20
8 mos.	1½	0.22	225	15	13000	50	5350	11
9 mos.	1½	0.22	300	20	22900	77	9100	27
13 mos.	1½	0.22	153	10	12350	50	9850	20
15 mos.	1½	0.22	157	10	9950	84	8000	24
3 yrs.	1½	0.22	225	15	9450	79	5500	29
3 yrs.	1½	0.22	150	10	7000	43	8800	31
3 yrs.	1½	0.22	142	9	6500	71	6450	29
4 yrs.	1½	0.22	262	17	29750	79	6102	29
9 yrs.	1½	0.22	626	42	6450	--	3400	35
5 yrs.	1	0.15	240	16	19850	85	4200	40

*Total white blood corpuscle count.

**Polymorphonuclear cell count based on 300 cells and expressed in per cent.

Sulfathiazole can readily be recommended for the treatment of pneumococcic pneumonias in infants and children provided each patient is closely watched for toxic reactions such as the blood changes. An analysis of 169 cases at this time indicates that a dose of 1½ grains per pound per day gives a consistent and satisfactory response. It would be ideal to determine the dosage requirements in the metric system, that is the number of grams per kilogram per day, but many practicing physicians prefer to know the number of tablets necessary for each dose based chiefly on the age of the patient. For their convenience the following schedule is offered.

		Tablets			
Age	Single Dose	0.25 Gm.	0.50 Gm.	Interval	Total 24 hr. Dose
Below 6 mos.	1.93 grs.	½	¼	4 hrs.	11.58 grs.
6 mos.—1 yr.	3.86 grs.	1	½	4 hrs.	23.16 grs.
1-3 yrs. (incl.)	5.79 grs.	1½	⅔	4-hrs.	34.74 grs.
4-6 yrs. (incl.)	7.72 grs.	2	1	4 hrs.	46.32 grs.
7-9 yrs. (incl.)	11.58 grs.	3	1½	4-hrs.	69.48 grs.
10-12 yrs. (incl.)	15.44 grs.	4	2	4 hrs.	92.64 grs.

Small capsule equals 0.25 gm. or 3.86 grains. Large capsule equals 0.5 gm. or 7.72 grains. Dosages calculated on 1½ grains per pound of body weight (0.22 gm. per kilogram) each 24 hours.

Give above doses for 24 to 48 hours, then reduce doses by one-third or 1 grain per pound for the next 3 to 5 days or until the temperature has been normal for 72 hours.

There has been no wish to draw conclusions at this time. Further investigations may alter the dosage schedules which have been presented. The final word concerning chemotherapy in pneumonia has not been written. We all await the results of the studies which are now being conducted, to place more light on the exact nature or method of action of sulfanilamide, sulfapyridine and sulfathiazole, and we also must know much more concerning the marked changes occurring in the human body which may follow chemotherapy but which do not reveal themselves at once, or at least during the period of administration of the drugs.

Since this paper has been presented, sulfadiazine has been introduced. The dosage schedule is the same as that of sulfathiazole.

* * *

A CALL TO THE MEDICAL PROFESSION

The following editorial is reprinted from the Journal of the American Medical Association of December 27. It is inserted here so that those readers who do not subscribe to the Journal of the American Medical Association may read it. Those who have read it may reread it with benefit.

The nation is at war. The Congress has passed an amendment to the Selective Service Act which will call for registration of every man up to the age of 65 and which will place all men under 45 years of age subject to service at the order of the Selective Service boards.

The Procurement and Assignment Service for Physicians, Dentists and Veterinarians was established by order of the President on October 30. Thus the medical profession itself aids in determining proper distribution of the medical profession in supplying the needs of the armed forces and maintaining medical service to civilian communities, public health agencies, industrial plants and other important needs.

At a meeting of the Procurement and Assignment Service held in Chicago at the headquarters of the American Medical Association of December 18, jointly with the Committees on Medical Preparedness of the American Medical Association, the American Dental Association and the American Veterinary Medical Association, plans were drawn for making immediately available to the United States Army and Navy Medical Corps the names of physicians who wish to be enrolled promptly in the service of the government in this emergency.

On the opposite page (see page 17 this Journal) is published a blank by which every physician may at once place his name with the Procurement and Assignment Service as one who is ready to serve the nation as the need arises. If you wish to make yourself available for classification, fill out this blank and send it at once to Dr. Sam F. Seeley, Executive Director of the Procurement and Assignment Service. When these blanks are received, they will be classified and checked with the information available in the national roster of physicians at the headquarters of the American Medical Association.

For two thousand and nine counties in the United States, lists have been prepared indicating physicians who are engaged in necessary civilian projects, public health services or educational activities from which they cannot be spared. Shortly the rest of the counties will have such lists available.

In each of the corps areas covering the United States a committee is being established, including representatives of medical, hospital, educational, dental and veterinary activities. In the individual states, committees of medical, dental and veterinarian professions are being established through which the corps area committees will exercise their functions. In each county also local committees will provide accurate information regarding the status of each member of the profession concerned.

The raising of the Selective Service age from 28 to 45 will place a great number of additional physicians in the category of those on whom the nation may call as their services are needed. Estimates indicate that some sixty thousand physicians thus become available for service and that forty-two thousand dentists under the age of 45 also become subject to call. By enrolling with the Procurement and Assignment Service immediately, utilizing the blank, all physicians, but particularly those under 45 years of age, insure to every extent possible assignment to the type of service for which they are best fitted. They avoid thus also the possibility of unclassified service with the United States Army during the period that may be necessary following selection by the Selective Service before the commission can be secured. A physician called by the Selective Service who has not enrolled or who is not on a reserve list obviously serves without a commission during the time that necessarily elapses before a commission is secured. In future issues of The Journal announcements will be made regularly of the numbers of those who enroll and of the extent to which the immediate needs of the Army, Navy and other government agencies are being supplied.

Management of Patients with Renal Calculi*

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In recent years pronounced progress has been made in the management of patients with renal calculi due primarily to a clearer conception of the etiological factors instrumental in their production. Experimental and clinical observations infer that probably no single etiological factor is responsible for the formation of all stones. It also is evident that unless a careful investigation is made prior to instituting surgical intervention to ascertain the causative factors, a recurrent stone probably will develop. It is only by the recognition of the etiological factors, with their correction during the operative procedure or in the postoperative regime may the incidence of recurrence and the morbidity of this disease be progressively minimized.

VITAMIN A DEFICIENCY

Various clinical observers have demonstrated the relationship between the formation of renal calculi and the absence of certain essentials in the diet. McCarrison(1) in India and Fujimaki(2) in China were the first to discuss this relationship. McCarrison stated that in certain parts of India calculi were observed so frequently that these localities were designated "stone areas." Other so-called stone areas have been reported in England, Egypt, Palestine, France, Russia and other countries. Holmes and Coplan(3) stated that calculi occur more frequently in southern California and southern Florida than in other parts of this country. From an analysis of the diet in these stone areas it is evident that the people subsist on a diet deficient in certain essentials, or the diet is not balanced in regard to acid-ash and alkaline-ash foods. Several authors have called attention to the deficiency in vitamin A in these regions.

In the experimental laboratory, similar observations have been noted. By maintaining rats on a diet deficient in vitamin A, I have been able to produce stones composed of phosphates with traces of carbonates. By changing the amounts of calcium and phosphorus in the diet, the chemical constituents of the stones become carbonates with only traces of phosphates. In the chicken and Dalmatian dog, uric acid stones may be produced, while in other breeds of dogs stones composed of calcium ammonium phospate are secured.

Other clinical observations indicate the relationship between calculous formation and a deficiency in the diet; first, the decrease in the incidence of lithiasis in children in England and France during the last century, and second, the increase in calculous disease in localities in which the people subsisted on a deficient diet for an extended period of time during the World War. Therefore, routinely, a biophotometer test for vitamin A deficiency should be made by an ophthalmologist in all patients suffering from renal lithiasis. The dosage of the concentrate to be employed postoperatively is determined by repeated tests. In my series of patients with renal calculi, 68 per cent had a definite deficiency in vitamin A revealed by the biophotometer test.

HYPERPARATHYROIDISM

Barney and Mintz(4), Albright and Bloomberg(5) and others have stressed the relationship between hyperparathyroidism and renal lithiasis. In 1934 Barney and Mintz reported a series of 18 patients with hyperparathyroidism which had been verified by surgical operation; in 11 or 61.1 per cent calculi were present in the urinary tract. The renal calculi were bilateral in 4 of the 11 patients. These observers concluded that hyperparathyroidism was associated with the formation of a renal calculus in 4 to 5 per cent of cases.

Griffin, Osterberg and Braasch(6), in reviewing the cases of renal lithiasis at the Mayo Clinic, stated that hyperparathyroidism was an etiological factor in less than 0.2 per cent of cases. In the cases I have studied, hyperparathyroidism and renal calculi coexisted in 0.1 per cent of cases. Routinely, however, the level of serum calcium and serum phosphorus in the blood should be determined. If there is an elevation of the serum calcium and a lowering of the serum phosphorus, additional investigations are necessary such as calcium balance studies and further roentgenologic studies of the bones.

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*Presented at the Bryan Memorial Hospital Clinic Day Program in Lincoln, Oct. 8, 1940.

INFECTION

The relationship between urinary tract infection and calculous formation has been stressed by Quinby(7), Bugbee(8) Braasch and Foulds(9) and others. It is evident that complete bacteriological studies are essential. In each instance it is of utmost importance to determine if the organism possesses the power of splitting urea with the resultant formation of ammonia and carbon dioxide. This renders the urine strongly alkaline and enhances the precipitation of the alkaline salts; that is, the phosphates and carbonates. Therefore, from the therapeutic standpoint, the use of ammonium salts such as ammonium chloride, as acidifying agents is contraindicated in the presence of a urea-splitting infection. While it has been the general conception that this property was confined to the micrococcus urea and the Proteus groups, since the reports of Brown and Earlam(10) we know that certain colon bacilli and Staphylococci albus possess similar properties. These observers observed that 18 per cent of the bacilli and 40 per cent of the Staphylococci albus that infect the urinary tract have the power of splitting urea.

In 1921 Rosenow and Meisser(11) demonstrated the specificity of streptococci in producing urinary calculi. They inoculated the pulps of the teeth of six dogs with streptococci isolated from the urine of patients with calculous disease. Following this, calculi developed in the dogs and streptococci again were isolated from the urine. Clinically, I have not observed this relationship and have been unable to isolate identical organisms from the foci of infection and the urinary tract. In view of the previously mentioned work, however, I believe that foci of infection in the teeth, tonsils, prostate and cervix should be eradicated.

It seems evident in certain instances that stasis is definitely associated with the formation of renal calculi. Stasis is conducive to shifting the pH of the urine to the alkaline side, and produces a fertile field for bacterial growth. Stasis may be demonstrated by intravenous urograms made prior to operation, affording an opportunity to remove or correct the causative factor at the time of surgical intervention. Also, similar studies should be made before the patient is dismissed from the hospital to ascertain whether stasis has been eliminated.

Snapper(12) has stated that all factors which tend to stabilize the labile colloids must help to prevent the formation of stones. The presence of salicylates, mandelates, hippurates, and other organic salts in the urine may, by increasing the stability of the urinary colloids, exercise a prophylactic influence against formation of stones. He concluded, "Factors which may have a preventive influence against the formation or even a curative effect on the formation of renal calculi are: (1) administration of foods with an acid-ash which increases the acidity of the urine and the solubility of the calcium salts, (2) artificial acidosis by ingestion of ammonium chloride, ammonium nitrate and other compounds, (3) large supply of vitamin A."

Metabolic diseases, such as gout and cystinuria, characterized by an excessive excretion of crystalloids in the urine also may be associated with the formation of renal calculi. In a collected series of 181 cases of cystinuria reviewed by Seegar and Kearns(13), renal calculi were present in 124 instances. Thus, a complete metabolic study is required in this particular group of cases.

It is evident that many factors may be associated with calculous formation and the identification of the causative factor or factors in each individual case is essential to prevent a recurrence.

Various approaches are available for the removal of a calculus from the kidney. When a simple pyelotomy is performed, the kidney should not be man-handled, traumatized and delivered into the incision. By sharp dissection and adequate exposure with flexible retractors, the posterior aspect of the kidney pelvis can be exposed, leaving the kidney in situ. In the majority of instances a calculus in the renal pelvis may be removed satisfactorily by simple pyelolithotomy. A linear incision in the pelvis usually suffices for the removal of the stone. If the simple linear incision is not sufficiently large, the pyelotomie elargie, or the inferior pyelolithotomy incisions may be ultilized. After removal of the calculus the incision in the renal pelvis should be closed with interrupted 000 catgut, avoiding passing the suture through the mucosa of the pelvis. This prevents prolonged urinary drainage and the introduction of a staphylococcus albus infection of the kidney which Joly(14) has stated may occur regardless of the sterile technic used in postoperative dressings. Exception to closure of the pelvis may exist, such as when a marked renal infection is present.

Before the incision in the pelvis is closed, an especially devised instrument is passed into the pelvis and the calices are washed with warm water, after which suction is applied to remove clots, fragments of stones or minute stones which might be overlooked and act as a nucleus for a recurrent calculus. On many occasions by this method I have removed additional stones which were not revealed on the roentgenogram.

When a nephrolithotomy is performed, it should always be as conservative as possible. I prefer to make the incision in the renal parenchyma with the cutting current. In the experimental laboratory we have shown that immediate hemorrhage is less profuse and less infarction and atrophy of the renal parenchyma is produced than when the incision is made with the scalpel.

After mobilization of the kidney the vessels of the pedicle are controlled with the fingers. An incision is made with the cutting current along the so-called "bloodless line." The large calculus is then removed and the cut surfaces of the renal parenchyma reapproximated with interrupted mattress sutures including small tabs of muscle to prevent the sutures from cutting through the renal parenchyma. Routinely, a number 18 Pezzar catheter is inserted into the kidney pelvis through the incision in the cortex for drainage, irrigation and removal of clots.

In certain instances performing a heminephrectomy is advisable to avoid sacrificing the kidney. This is especially applicable in a pyocalyx of the lower or upper part of the kidney containing a calculus. It is obvious, of course, that in those cases in which complete destruction of the kidney has occurred a nephrectomy is necessary. Conservatism is essential, however, in the surgical management of patients with renal lithiasis.

The postoperative management of this group of patients is extremely important to avoid recurrent calculous formation. In a series of the last 470 recurrent calculi I have studied, the highest percentages of recurrences were found to have developed during the first three years after operation. The frequency of recurrence during the first year is extremely high; 13 per cent formed a new stone in the kidney before a year had elapsed, and 57 per cent formed within three years. As the years pass by following this three year period the likelihood of a recurrence progressively diminishes.

Chemical analysis of the calculus to determine its constituents is of paramount importance in planning the postoperative dietetic routine. The principles involved in the postoperative regime are: (1) correction or eradication of the underlying factors (previously mentioned) responsible for formation of the primary calculus, (2) adjustment of the hydrogen ion concentration of the urine by dietetic means to maintain the crystalloids of the urine in complete solution.

The dietary regime is planned according to the chemical constituents of the calculus, and the hydrogen ion concentration of the urine from the kidney which harbored the stone. If the calculus is composed of phosphates and carbonates, the high vitamin A acid-ash diet is prescribed, reducing the pH of the urine to a point where these salts are not being precipitated. If the stones are composed of oxalates the high vitamin A acid-ash diet with a restriction of foods of high oxalic content is prescribed. When the calculus is composed of cystine or uric acid, the high vitamin A alkaline-ash diet with restriction of foods with a high purine content is advisable.

Vitamin A is prescribed (1) to correct vitamin A deficiency if it is present, and (2) for its specific effect upon epithelial structures. The dosage of the concentrate is determined by biophotometric study. The patients also are advised to drink an abundance of water.

The pH determining apparatus is given to the patient who is taught to make his own determination of the pH of the urine daily at a stipulated time in order to avoid the alkaline tide. This analysis requires only two or three minutes. The reports are presented to the family physician at regular intervals of time. He can easily control the pH of the patient's urine by altering the amount of vegetables and meat eaten daily.

Extremely close observation is essential during the first year after operation.

Thus the management of patients with renal lithiasis embraces not only the field of surgery, but also chemistry, bacteriology, endocrinology and dietetics.

Only by utilizing data obtained in all of these fields of medicine can we minimize the morbidity of patients with calculous disease.

Pyogenic Infections of the Hand*

Lymphatic, Tendon Sheath and Fascial Space Infections

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The three major types of pyogenic infections of the hand are those involving the lymphatics, tendon sheaths and fascial spaces. They present special problems due to the anatomy of the parts involved and the specialized functions of the upper extremities. The hand is a most important structure economically and the preservation of its finer movements is necessary for the performance of the skillful tasks of our every day economic life. The loss of a single tendon may necessitate a change in occupation. Early and proper management of the major infections of the hand will reduce to a minimum the loss of function as well as the morbidity and mortality rate. This is in turn dependent upon a thorough knowledge of the anatomy concerned, and the interpretation of clinical symptoms and signs in terms of anatomical structures.

LYMPHATIC INFECTIONS

This type of infection (due to the streptococcus) usually starts in a small scratch or abrasion on the hand which may even be healed at the time the acute symptoms appear. These come on suddenly with chills, fever, local pain, swelling, redness and the appearance of the well known red streaks which are due to lymphangitis and perilymphangitis. The regional lymph nodes soon become swollen and tender due to adenitis, and the overlying skin may become red, due to an accompanying periadenitis.

In general, the lymphatics accompany the superficial veins and the superficial lymphatics, which are most concerned in these infections, accompany the superficial veins. In the upper extremity, the lymph vessels pass quickly from the palmar side of the fingers and hands to the dorsum, and then proceed up the forearm and arm along two main streams, one accompanying the basilic vein and the other the cephalic vein. The supratrochlear nodes, just above the medial epicondyle, lie in the course of the former stream and the delto-pectoral glands, between the deltoid and pectoralis major muscles, in the course of the latter. The next nodes to become enlarged from both streams are the axillary (lateral, central and infraclavicular divisions).

The great danger in these cases is the possibility of extension from the lymph system to the blood stream with the production of septicemia. The sheet anchor of treatment in conservatism. More harm is done by meddlesome surgical interference than by any other means. There is nothing to drain early in the disease and incision merely spreads the infection on its way toward the blood stream. Local heat, preferably in the form of moist, hot packs (boric acid or magnesium sulphate), is the most important early therapeutic measure. General treatment, chemotherapy (mercurochrome, acriflavine, sulfanilamide) and sera may help, but local heat stands first in value. Under this management the great majority of cases will either undergo complete resolution or localize in one or more areas about the portal of entry, regional lymph vessels or nodes. Simple drainage may then be safely accomplished.

The acute fulminating lymphatic infections are usually primary, but may be secondary to tendon sheath or fascial space infections, in which case the latter must be independently cared for after the most acute phase of the lymphangitis has passed. A less fulminating type of lymphatic infection, without lymphangitis but with lymphadenitis, is more often secondary to other types of infection, is much less serious, and responds to the same treatment. Of the three major types of hand infections, the fulminating lymphatic type is most dangerous to life, but least apt to result in residual loss of function, once the crisis has passed.

FASCIAL SPACE INFECTIONS

Fascial space infections may be primary due to penetrating wounds, secondary to tendon sheath infections, or it may arise by spread from other fascial spaces. The pioneer work of Kanavel (1921) has long been the basis for most of our knowledge of the fascial spaces of the hand and forearm. However, during the last few years, my associate, Dr. E. A. Holyoke, and myself (1941) have noted certain discrepancies between their descriptions and our findings in the anatomical laboratory. The most important of these discrepancies concern the midpalmar and adductor (thenar) spaces, and the description of these spaces given below follows our revised conceptions. There are three dorsal spaces in the hand: the subcutaneous, subfascial and subaponeurotic spaces. The former is important clinically in that the lumbrical muscles lie in this space near their insertion dorsally and may serve as the pathway for the spread of infection to the important midpalmar and thenar spaces. The subfascial space, between the deep fascia and the extensor tendons, is of little importance clinically. The subaponeurotic space, between the extensor tendons and the dorsal interosseous membrane, may be brought into relation with the midpalmar and thenar spaces by the interossei muscles, which lie in it near their insertions and thus permit the spread of infection to and fro.

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*Read before the Omaha Mid-West Clinical Society, October, 1940.

The midpalmar space (Fig. 1) extends across the palm from the thenar to hypothenar eminences, and from the transverse carpal ligament to the distal transverse crease of the palm, about three fourths inches proximal to the metacarpo-phalangeal joints. On the volar side, it is bounded by the superficial (palmar aponeurosis) and deep palmar membranes. On the dorsal side, it is bounded by the volar interosseous membrane and the oblique septum which extends from the ulnar border of the third metacarpal bone to the thenar eminence and the web between the thumb and index fingers. It is subdivided distally (contrary to Kanavel's description) into individual compartments by connective tissue septa on each side of the sublimus and profundus tendons to each finger. Proximally, the midpalmar space is undivided. This space may be infected by direct penetrating wounds, by extension from the dorsal subcutaneous space along the lumbrical muscles, by extension from the flexor tendon sheaths of the 2nd, 3rd, 4th and sometimes the 5th fingers or by spread from the adductor (thenar) space. It is to be especially noted that the first lumbrical space and the flexor tendon sheath of the index finger are related to this space and not (as described by Kanavel) to the adductor or thenar space, which may become involved in these cases only secondarily by spread from the midpalmar space. Any, or all of the compartments of the midpalmar space are best drained by an incision or incisions from the web to the distal transverse crease of the hand in the 2nd, 3rd, and (or) 4th interspaces. Through these incisions, the deep tissues should be spread proximally with a haemostat.

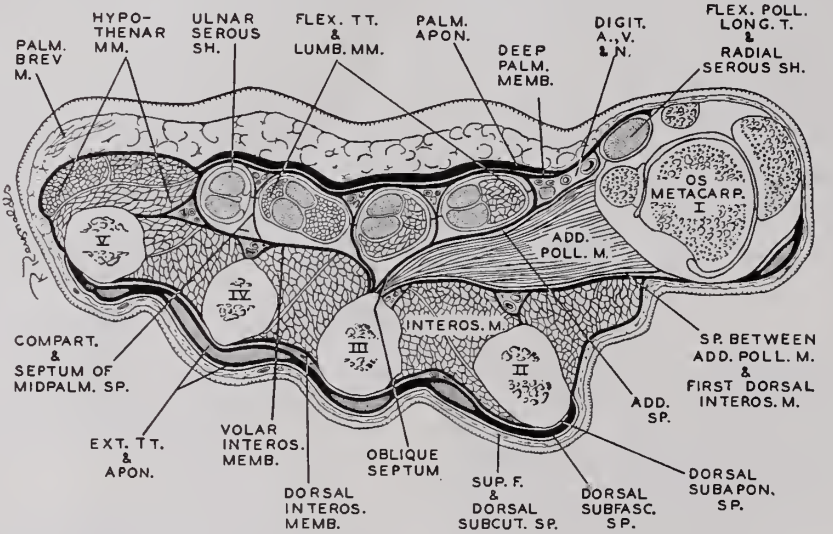
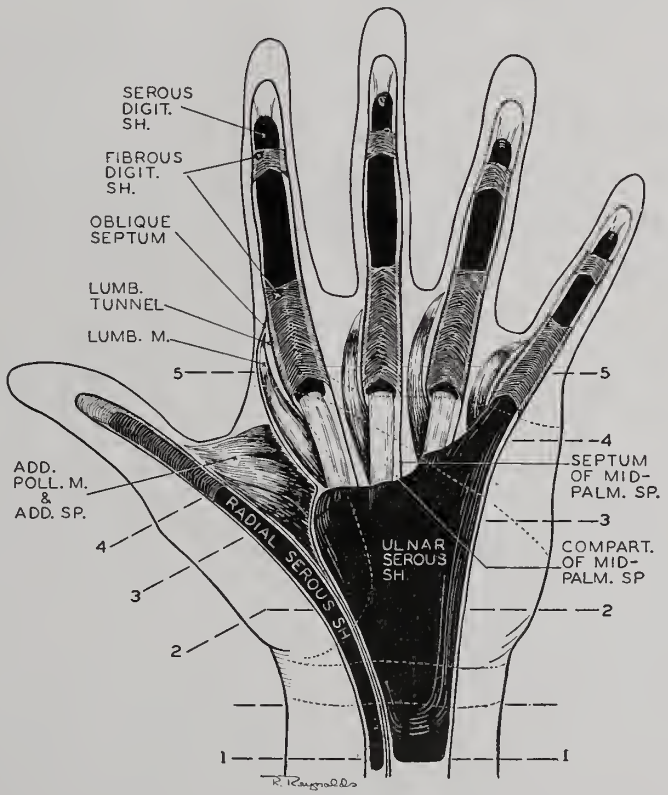


Fig. 1. Cross section through middle third of hand, showing the individual compartments of the midpalmar space and their relation to the flexor tendons and the adductor space (proximal surface).

The adductor (thenar) space (Fig. 1) lies between the oblique septum and the adductor pollicis muscle. It bears no direct relationship to the flexor tendon sheaths or the lumbrical muscles of the lateral four fingers. It may be brought into communication with an important subspace lying between the adductor pollicis and the first dorsal interosseous muscles, by extension through the fibrous tissue along the lateral border of the adductor pollicis muscle. The adductor space may be infected by direct penetrating wounds, by spread from the midpalmar space, or occasionally from rupture of the thumb sheath of the flexor pollicis longus tendon (especially when separate from radial bursa). It is best drained by making an incision in the web between the thumb and index finger and spreading a haemostat medially along both surfaces of the adductor pollicis muscle.



F. 2. Diagramatic drawing, showing the serous and fibrous (partially) sheaths of the fingers and palm, and their relation to the lumbrical, midpalmar and adductor spaces. The dotted lines indicate the natural creases, and the numbered broken lines, indicate the lines of section for cross section study.

The deep forearm space, between the flexor muscles of the forearm and the interosseous membrane, extends from the middle of the forearm (at the origin of the flexor digitorum profundus and flexor pollicus longus) to the transverse carpal ligament. It is infected by direct penetrating wounds or by extension from the radial and ulnar bursae. It is shut off from the midpalmar and thenar spaces by the pressure of the transverse carpal ligament. It is best drained by lateral and medial incisions above the styloid processes of the radius and ulna, thus obtaining through and through drainage.

Fascial space infections are usually caused by the common pyogens (streptococcus and staphlococcus). They are characterized by swelling, pain, tenderness and redness overlying the anatomic site of the spaces involved, and moderate flexion deformity which does not resist passive extension. Constitutional symptoms of variable degree are also present.

These infections are not as dangerous to life as are the acute lymphatic infections, though they may prove fatal if neglected. As regards permanent disability they stand between the lymphatic and tendon sheath infections, being much more apt to lead to loss of function than the former and less apt to than the latter. If recognized early and treated properly there should be little or no loss of function, but neglect or improper treatment often leads to serious permanent impairment. The treatment is largely surgical—adequate incisions, properly placed. Hot packs should be used only a short time for localization before operation, and for a few days after operation. A fascial space may be opened on suspicion, as no harm is done if pus is not found. Associated tendon sheath infections must be independently drained.

TENDON SHEATH INFECTIONS

Acute, pyogenic tenosynovitis is usually a primary infection resulting from a penetrating wound directly into the tendon sheath or extension from another sheath with which it is in normal communication. The streptococcus and staphylicoccus are the organisms commonly responsible.

In the hand, the sheaths on the flexor side are of greatest importance. The sheaths of the extensor tendons are confined to the region of the wrist and bear no important relations to the fingers or forearm. They are seldom infected and even then the infections remain localized. The sheaths of the flexor tendons (Fig. 2), on the other hand, extend from the terminal phalanges to the distal crease of the hand. In ninety-five per cent of cases, the flexor sheath of the thumb is continuous with the radial bursa around the flexor pollicis longus tendon, which extends above the transverse carpal ligament. Less frequently (fifty to seventy-five per cent of cases) the flexor sheath of the little finger is continuous with the ulnar bursa around the flexor digitorum sublimus and profundus tendons, which also extends a short distance into the forearm. Because they are surrounded by outer fibrous sheaths except of the 2nd, 3rd and 4th fingers (and of the thumb and little finger when they are not continuous with the radial and ulnar bursae) usually rupture at their proximal ends, where they are not so protected, and infect the thenar (1st finger) or mid-palmar 2nd, 3rd, 4th and 5th fingers) spaces. The radial and ulnar bursae normally communicate in about fifty per cent of cases. When they rupture, they most commonly rupture at their proximal ends thus infecting the deep forearm space. Less commonly, the radial bursa ruptures into the thenar space and the ulnar bursa into the midpalmar space.

Tendon sheath infections are characterized by sudden onset, acute pain, tenderness and redness overlying the anatomic site of the tendon sheaths involved, and marked flexion deformity which resists passive extension. The latter sign is almost pathopneumonic of the disease. In addition, general symptoms, such as fever, malaise, etc., are present.

The essential principles of treatment consist in early and proper drainage. Hot packing should be limited to the first few hours before the diagnosis becomes certain and to the post-operative period. To delay surgical drainage is merely to invite adhesions between the visceral and parietal layers of the sheaths, and the shutting off of the meager blood supply of the tendons, with subsequent sloughing. The incisions should be made opposite the mesenteries (vinculae) of the sheaths and the tendons should not be disturbed from their beds, thus preserving their blood supply.

Median palmar incisions should be avoided and the joints between phalanges should be skipped to prevent prolapse of tendons. Incisions properly placed and of adequate length usually make the use of drainage material unnecessary but, if drainage material is used, it should consist of the softest rubber and should remain in place only about 48 hours to prevent pressure necrosis of the tendons.

Tendon sheath infections are not as dangerous to life as the acute lymphatic infections but are much more apt to lead to subsequent loss of function and permanent disability. Even when recognized early and treated properly, there is apt to be some loss of function due to adhesions between the visceral and parietal layers. However, early and proper treatment reduces this to a minimum, while late or improper treatment leads to extensive ahesions, sloughing of tendons and extreme permanent disability. Because simple incision may cause some disfunction, tendon sheaths are not to be opened on suspicion, but as soon as the diagnosis becomes certain. Any facial space secondarily infected from tendon sheaths must be drained separately.

SUMMARY AND CONCLUSIONS

1. The hand is a most important structure in the economic life of the individual.

2. Infections of the hand are important from the standpoint of loss of function as well as from that of mortality and morbidity.

3. There are three types of major hand infections: lymphatic, fascial space and tendon sheath infections.

4. Acute lymphatic infections are most dangerous to life, but least apt to lead to permanent disability. The main principle of

treatment is the avoidance of early incisions before localization takes place.

5. Tendon sheath infections are most apt to lead to permanent disability. This may be reduced to a minimum by early and adequate surgical treatment.

6. Fascial space infections stand between the lymphatic and tendon sheath infections in regard to loss of function. Early and proper surgical treatment should prevent any permanent disability, but neglect or improper treatment leads to serious, permanent loss of function.

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* * *

ENROLLMENT FORM FOR PROCUREMENT AND ASSIGNMENT SERVICE FOR PHYSICIANS

Dr. Sam F. Seeley, Executive Officer
Procurement and Assignment Service
New Social Security Building
4th and C Streets S. W.
Washington, D. C.

Dear Doctor Seeley:

Please enroll my name as a physician ready to give service in the Army or Navy of the United States when needed in the current emergency. I will apply to the Corps Area commander in my area when notified by your office of the desirability of such application.

Signed..

1. Give your name in full, including your full middle name:
2. The date of your birth:
3. The place of your birth:
4. Are you married or single?
5. Have you any children? If so, how many?
6. Do you believe yourself to be physically fit and able to meet the physical standards for the Army and Navy Medical Corps?
7. Have you filled out previously the questionnaire sent to all physicians by the American Medical Association?
8. When and where were you graduated in medicine?
9. In what state are you licensed to practice?
10. Do you now hold any position which might be considered essential to the maintenance of the civilian medical needs of your community? If so, state these appointments:
11. Have you previously applied for entry into the Army or Navy Medical Service? If so, state when, where and with what result (if rejected, state why).

Signature ....

Date.. Address ....

Infections of the Throat—Acute Septic Sore Throat*

LEO P. COAKLEY, M. D.
Omaha, Nebr.

The great economic importance of throat infections is well known. In times of world conflict and national defense, we are again confronted with the seriousness of throat infections among our forces and munition workers.

Modern warfare, particularly chemical warfare, is directed toward incapacitating rather than killing an individual. It was found during the last world conflict that one individual, badly wounded or gassed, required the services of four normal healthy individuals to render proper care and treatment. Epidemic sore throat and influenza, the most dreaded of all epidemics that may take place during war, may be compared to a successful gas attack.

Since the last war, great advances have been made in the control of the enteric group diseases which have caused such destruction in the wars of history. Death from contagious diseases still outnumber those from battle injuries in the United States Army. Many of these fatalities resulted from various types of illness attacking the body through the respiratory tract, and the uncomfortable fact must be faced that some of these are almost as uncontrollable and as poorly understood today as they were twenty years ago. It is impossible to predict what diseases may attack our forces if they are engaged in another war, but serious study is being given to all of the war time plagues. The public health service has already lent valuable aid in improving sanitation and disease controls in civilian areas adjacent to military reservations. This measure applied in connection with military maneuvers which were held in 1940 very probably contributed materially to the low incidence of disease among the troops.

The Ministry of Health of Great Britain(1) has made an extensive study of the bacterial flora of the nasopharynx. They found that normal adults living in an urban community in a temperate zone some 20 to 40% will be found to be carrying Strep. Pneumoniae in the nasopharynx and some 5 to 15% a hemolytic streptococcus; between 40 to 80% will be harboring B Influenzae and 5 to 20% the Meningococcus. Another interesting observation in relation to war time conditions is the relatively high frequency of Meningococci in the nasopharynx. There is some evidence that the pneumococcus and the meningococcus tend to be associated in the nasopharynx; so that a person harboring one of these organisms is subject to an increased chance of harboring the other, and frequent carriers of the pneumococcus tend to be relatively frequent carriers of the latter. The type III pneumococcus was found to be the most stable of all the flora found.

The crowding of men from all walks of life into camps has long been recognized as offering increased hazards with respect to epidemic illness. These are usually spread by droplet and are very difficult to control. Droplets may be of three types: large droplets sprayed a short distance from the nose and throat, droplet nuclei which may float in the air for long periods, and dust particles.

In the medical wards infection may be spread from patient to patient by doctors, nurses, visitors, or by bedding, eating, drinking utensils, books and so forth. Under these conditions, it would appear that more or less bed isolation of an individual suffering from sore threat, will spread of the infection be effectively controlled. The complete bed isolation of each individual patient may be beyond the facilities of most institutions and military camps. However, many measures can be adopted to prevent the spread of epidemic sore throat. (1) Beds should be so placed as to allow circulation of fresh air between them, usually about 17 feet between the bed centers. (2) Patients suffering from an acute septic sore throat should be put into isolation, e. g., surrounded with screens either glass or cloth 7½ feet high. They should not be allowed to leave this area nor any other patient allowed to enter. (3) Each screened patient should be provided with his own thermometer, bed pan, urine bottles, towels, etc. A clean sterile gown should be hung within the enclosure and worn by the nurses approaching the patient for washing and bedmaking. (4) The eating and drinking utensils of all patients should be boiled immediately following their use. (5) After the discharge of a screened patient everything within the screened area should be sterilized. The screens are an effective though an imperfect barrier to droplet infection. They are also a constant reminder to nurses and others that special care must be taken, and they discourage the approach of other patients. This procedure may be carried out in the home as well as the hospital ward. Proper ventilation, and if possible, sunlight by means of a sun porch, will aid in the feeling of well being of the patient and shorten the period of convalescence.

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*Read before Annual Assembly Nebraska State Medical Association, Lincoln, May 6, 1941.

Cleanliness of the throat and mouth by means of dental hygiene and gargling have been used as a preventive measure, as they at least inhibit the growth of bacteria on tissue surfaces. Thymol in aqueous solution seems to have great antiseptic value and the cost is negligible. This solution is used particularly in the British Army(2). The addition of glycerine to the thymol enables more of the thymol to be dissolved but does not increase its antiseptic power. Spraying of 0.5-1% solution of sodium hypochlorite has effectively reduced the presence of air borne infections in air raid shelters.

Acute septic sore throat may be due to a variety of organisms(3), but the great majority of the cases are undoubtedly due to the streptococcus hemolyticus. The pathogenicity of this organism has been known for fifty years and the classification has been a problem for thirty years. They were first classified by length of chains, then by the production of hemolysis and later by the study of their carbohydrate fermentation reactions. In 1919 Smith and Brown returned to hemolysis as a basis of classification and grouped the streptococci according to the effect on blood agar plate as follows: (a) Those showing alpha hemolysis or a ring of green around the colony with an outer ring of partial hemolysis. (b) Those showing beta hemolysis or a ring of complete hemolysis adjacent to the colony. (c) Those showing gamma hemolysis or no hemolysis at all which group includes the indifferent streptococci. This classification is still being used at the present time. There is every reason to hope that in the very near future, the classification of the streptococcus group will be comparable to its closely allied group, the pneumococcus, and that the resultant production of immune sera for treatment will greatly aid the physician in his handling of this common and occasionally serious human ailment.

Many epidemics, particularly those of a mild type are no doubt due to the streptococcus hemolyticus of the alpha type. Raw milk from cows with mastitis have been found in most of the epidemics to be the source of the infection. The severe septic sore throat is due to the streptococcus hemolyticus of the beta type. This group is known to produce five types of toxins. The outstanding one is a (1) filterable hemolysin whose effect on the blood of the patient may be demonstrated clinically or by hemoglobin determinations. Many strains produce (2) leucocidin which has a lytic effect on the leucocytes. An (3) erythrogenic toxin is produced and this is demonstrated by the rash of scarlet fever. A (4) fibrolysin is also produced which digests fibrin already formed. (5) Finally there is a toxin produced known as the "spreading factor" which seems to prepare the surrounding tissues for the spread of the other toxins. An organism so well equipped with offensive weapons may well produce a great variety of symptoms.

The organisms gain entrance through the nose and mouth. There is a sudden onset frequently with a chill, rapid rise in temperature to 104 or more, very marked malaise, headache, severe pain in the back and limbs, constipation, anorexia and in infants a convulsion. The throat is dry, then painful with sharp otalgia. There is an ischemia of the tissues of the nose and throat due to the reaction of the lymphoid tissues to the invasion of bacteria. Following this initial stage, there is increasing dysphagia and pain on swallowing, a muffled voice, much painful hawking of tenaceous mucous, a heavy coated tongue and pus like fetor. There is marked swelling and redness of all the tissues of the lymphatic ring of the throat. The exudate on the membranes in this stage is serous which, as the tissues become reddened, swollen and congested becomes fibrinous and later fibrino purulent. The cervical glands are swollen, painful and tender. The rapidity with which the disease progresses from a mild to a severe stage depends upon the dosage and virulence of the organism, the amount of lymphoid tissue and the resistance of the patient. If the patient is able to develop immunity while the disease is confined to the lymphoid tissue, resolution commences, and the disease is of short duration.

DIFFERENTIAL DIAGNOSIS

Diphtheria. Due largely to the education of the public, this type of throat infection is rapidly becoming a vanishing disease. Most children of school age have been immunized and a case of diphtheria is rarely seen. The clinical picture of slow pulse, low grade fever and the characteristic dirty white or yellow grey membrane will aid in the diagnosis. Positive diagnosis is made by the culture and finding of the Klebs-Loeffler bacillus.

Vincent's Angina. The membrane of this type of lesion is usually quite easily detached. Marked ulceration and loss of tissue are found under the membrane. The general symptoms are mild and the progress of the disease is usually of an indolent type. The outstanding characteristic of this type of throat which tends to set it aside from diphtheria is the fetid breath. Here again positive diagnosis is made by the finding of the Vincents spirochaetes and the fusiform bacillus in stained direct smears.

Syphilis. General symptoms are mild. There may be a slight fever, anorexia sore throat, and various types of skin eruption. Following this, the mucous patches appear as well defined growths with a moist surface covered with a greyish secretion and are found on the lips, tongue, gums, cheeks as well as the pharynx. The tonsils may show small ulcers about the mouth of the crypts. The history and laboratory tests will lead to a positive diagnosis.

Agranulocytosis and Infectious Mononucleosis. The presence of an exudative or ulcerative lesion in the mouth or throat should always suggest the necessity of a complete blood examination as well as a culture. Positive diagnosis of these conditions is made by the blood studies.

COMPLICATIONS

Acute septic sore throat is primarily an infection of the lymphoid ring and since the tonsils and adenoids are the largest masses of lymphoid tissue within the throat, they receive the brunt of the attack. Acute tonsillitis is a common complication of acute septic sore throat and is usually confined to the tonsillar crypts. The infection may break through the base of one of the upper tonsillar crypts and pour infection into the peritonsillar space forming a peritonsillar abscess. The adenoids undergo the same changes that take place in the tonsil. Due to their location, they hold infected material about the mouth of the eustachian tube where it may easily find access to the middle ear. Acute otitis media with a possible mastoiditis are frequent complications. Acute pansinusitis is not uncommon. The infection is carried into the sinuses by continuity of tissue and here sets up a severe reaction which at times is quite difficult to clear up. The infection may also be carried to distant parts of the body producing local cellulitis, joint conditions and serious heart and kidney damage.

TREATMENT

A great many acute septic sore throats particularly the mild epidemic type will improve and require nothing further in the way of treatment than the following general measures. These patients should be put to bed. The relaxation and general body warmth that comes from rest in bed are prerequisites to the efficacy of any type of treatment. Hot saline throat irrigations should be given every hour during the first twenty-four hours. The hot irrigations have a two fold purpose, namely, to wash out the tenacious secretions and promote a mild hyperemia to draw nature's defensive forces, the blood and lymph, up into the infected area. Hot gargles are used extensively, but their value as compared to the irrigation is much less due to the fact that the gargle does not get back to the infected area. At the crest of the infection or where the peritonsillar space is involved, the secretions in the throat become quite tenaceous and ropy. 3% magnesium sulphate used as a mouth wash will relieve this annoying condition by liquefying the secretions and have a mild dehydrating effect on the swollen and dematous tissues. All acute septic sore throats have a more or less cervical adenopathy. The question of whether to use cold compresses or hot compresses to the neck may be argued indefinitely. Both are used to prevent spread of the infection and to promote resolution by an active hypermia. My observation has been that hot compresses, used continuously in the active stage of the infection or for one-half hour every three hours later, will promote resolution very effectively and is more soothing to the already inflamed tissues. Painting the throat with strong antiseptic and astringent solutions such as tannic acid and glycerine, tincture of merthiolate, tincture of iodine as a therapeutic measure have very little value. As the infection is primarly of the lymphoid tissue. 0.5% silver nitrate or 5% guiacol in glycerine give temporary relief. Most of the strong antiseptics in common use do nothing more than superimpose a chemical pharyngitis on an infected sore throat. As has been stated, the tonsillitis following acute septic sore throat involves the crypts of the tonsil, and the pathology lies deep in the tonsillar crypt. Painting the tonsil with antiseptic or astringent solutions has no value. Salicylates in the form of sodium salicylate gr. vii with sodium bicarbonate gr. iii given every four hours will effectively relieve the various muscular and joint pains. Throat lozenges of mild anesthetic preparations are comforting.

Throughout this discussion, the various types of organisms, their characteristics and the pathology due to these characteristics has been stressed. This was done, because of the recent changes that have been made in our methods of treatment, namely, chemotherapy.

The first prerequisite to chemotherapy is a direct smear and culture of the infected area. After the type of bacteria has been determined, then a rational form of chemotherapy may be used. Sulphanilamide and its derivatives are the greatest addition that has been used in our armementaria; however, it is not a panacea. It has been used in almost all of the various infections known to man. Miraculous results have been reported by some while others report failures. These widely varying reports are no doubt due to the fact that a proper study and identification of the bacteria was not made.

Sulphanilamide and neoprontosil have a marked bactericidal activity plus a high degree of tolerance. The bacterial organisms especially susceptible to the action of neoprontosil are hemolytic streptococcus, meningococcus and are indicated in upper respiratory infections (otitis media, mastoiditis and sinusitis). Sulfapyridine is used in the treatment of pneumococcic pneumonias. Used with the anti-pneumococcic serum, a higher percentage of recoveries will result than if either is used alone. Sulfathiozole is used in the treatment of pneumococcal and staphlococcal infections. Each one of these drugs has its particular bactericidal action, and this particular bactericidal action of one drug is not interchangeable with the bactericidal action of the other.

Neoprontosil is given in all cases of acute septic sore throat. 10 grains are given every three hours for the first twenty-four hours. 10 grains are given every four hours during the next twenty-four hours. At this time a sulphanilamide determination is taken and if found to be 10 mgm. per hundred cc. of blood, the neoprontosil may be stopped or the dosage reduced to 5 grains every four hours and stopped after seventy-two hours. The success of using neoprontosil depends upon obtaining a high concentration in the first twenty-four hours.

CONCLUSIONS

1. Throat infections are of great importance both in time of peace and war.

2. Acute septic sore throat is due to hemolytic streptococcus of the beta type. Many mild epidemics are due to the alpha type carried in raw milk.

3. Many acute septic sore throats of the milder type require nothing further in the form of treatment than general measures.

4. The first prerequisite to chemotherapy is a direct smear and culture of the infected area. Bacterial study is made and the proper type of chemotherapy used.

5. Neoprontosil given by mouth, in large doses during the first 24 hours has a marked bactericidal effect on the hemolytic streptococcus responsible for the severe type of acute septic sore throat.

* * *

A mixture of carbolic acid and camphor has been found effective in the treatment of "athlete's foot," Edward Francis, M. D., Washington, D. C., states in The Journal of the American Medical Association for December 6.

"The mixture," he says, "is nonirritating to the skin and may be painted between the toes several times a day . . . . The sock may be replaced immediately without danger of corrosion. There is no discoloration of the clothing. Relief from itching is immediate . . . . It should be pointed out, however, that the phenol-camphor preparation should not be applied to the wet skin since water causes a breakdown of the preparation with the result that it becomes caustic."

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical sevices and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

WE ARE IN THE SERVICE OF OUR COUNTRY

Modern warfare, involving as it does all human beings regardless of sex, age or occupation, places a particularly heavy responsibility upon the medical profession. Aside from satisfying the needs of the medical corps of the army, the navy, and the various branches of the government services, there is the additional task of organizing and maintaining the "Home Defenses" to meet whatever crisis may result from the conflict directly or otherwise. In this war, let it be remembered, there are no geographical advantages that guarantee immunity against destruction of property with all the consequences that follow in its wake. The battle field has become delimited.

In trying times such as these the physician's personal and professional duties toward his patients and toward his community are enhanced. Our country is actively engaged in the prosecution of a ferocious war imposed upon it by forces of evil and tyranny. Many of us will undoubtedly be dislocated from our homes for service in the armed forces. Some will be assigned to other governmental agencies where medical needs now exist, and where these needs will grow with the progress of the conflict. Most of us, however, will remain at our offices, hospitals and clinics to serve our respective communities. Regardless of where we may be located our work will be characterized by a common function and a common aim: to serve where our services are needed.

That each and every physician will give the best there is in him is something which, to our credit, the government and public justly expect. Whether on military duty in the combat zone, or at the bedside in a farm house, or in the infirmary of an industrial plant, our task is to care for the sick and the wounded.

In this crisis, as in the past, the American medical profession stands ready and alert to render its unqualified aid in the interest of patriotism in whatever capacity it may be called upon to furnish such aid.

President's Page

The realities of war, and particularly the present methods of warfare, have created a new phase of defense. It concerns protection of civilians and their homes to a greater degree than that prevailing in combat areas.

Medicine, interpreting the term as an all-inclusive personnel, becomes an essential unit in the immediate phase, as well as in the aftermath of rehabilitation.

Since bombing of any area far removed from the battle fields is possible, it is advisable that each community prepare itself now. Experiences in the London area are available from which lessons on this phase of war may be drawn.

I quote a resolution just enacted unanimously by the Omaha-Douglas County Medical Society:

> "The Council of the Omaha-Douglas County Medical Society offers these resolutions to the membership of the Society:
>
> 1. As citizens of this community and nation, we are aware of our added responsibilities to our nation in warfare. We recognize the possibility of emergencies occurring in our own community.
>
> 2. To the Coordinator of Civilian Defense in Omaha and Douglas County, we offer our professional services collectively and individually for the purpose of meeting these wartime emergencies as they may arise.
>
> 3. We recommend the appointment of a Civilian Defense Committee of five members from the Omaha-Douglas County Medical Society. The purpose of this Committee is to organize a plan of action for the co-ordination of hospital personnel and facilities for the first aid care of emergencies that may arise during wartime activities in our community."

Aside from offering our services, we as medical men must take the lead in building first-aid units and such other programs as may be required to meet emergencies on instant notice. Our country is engaged in a desperate fight to defend our democratic institutions. We must do our part. WE WILL DO IT.

W. P. WHERRY, M. D.

HEART DISEASE AND PREGNANCY

The problem of heart disease concerns about 20,000 pregnant women each year. Jensen(1) estimates that in the United States about 1,000 deaths from heart disease in pregnant women occur annually. The incidence of organic heart disease complicating pregnancy varies between 1 and 4 per cent and is apparently associated with geographic distribution. That the incidence varies with the locality is readily understood, as rheumatic heart disease accounts for almost 95 per cent of all cases according to Carr and Hamilton(2), and Stander and Kuder(3). The majority of these women have mitral stenosis. From 70 to 90 per cent terminate their pregnancy without difficulty, while 5 to 8 per cent of the mothers die. Jensen investigated 2,500 pregnant cardiac patients admitted to various clinics and found the death rate 5.8 per cent. Heart disease ranks among the four or five most important causes of maternal deaths.

The course of the cardiac patient who becomes pregnant must be guided by an intelligently planned program. In the light of present knowledge the existing cardiac disease must be regarded as primary and the pregnancy as the complication. Daly and Strouse(4), have stated the problem thus: "A woman with organic heart disease who becomes pregnant is immediately treated as a cases of pregnancy with medical complications. This position is no longer tenable. The medical side of the complication must become the paramount issue, the pregnancy the complication." It is not enough for the obstetrician or internist to see these cases separately, there must be a mutual working relationship with the substantial interest of both specialists until the job is done. "Cardiac clinics are not part of the standing equipment of most obstetric services. While a general trend toward a more successful management of these cases is apparent, there is disagreement on almost every detail of the problem(5)." The diagnosis of heart disease in pregnant women is relatively easy, but the difficulty is that the diagnosis doesn't remain the same throughout the whole of pregnancy. One cannot come to a conclusion at six weeks or three months or six months that the particular woman with heart disease will or will not do well in this particular pregnancy. It is necessary contiually to re-examine, re-discover and change one's concept and therefore the prognosis.

E. C. Sage, M. D.

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ANNOUNCEMENTS

Call for Papers

There are still several places open for papers to be read at the Annual Assembly of our Association in May. If you wish to participate in the program please forward the title of your paper at once to Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln. The call for papers will close February 1.

Your dues are now due. Send your check to the secretary of your County Society. Your Association needs you this year as never before. So do you need the Association. And since no organization can function without funds, please do not delay payment of your dues.

The annual mid-winter meeting of the Council of the Nebraska State Medical Association will be held at the Hotel Lincoln, Sunday, Jan. 18, 1942. The meeting will be called to order at 2 p. m.

The next basic science examination will be given January 13-14, 1942, University College of Medicine, Omaha. All applications for this examination must be filed with the office of the Bureau of Examining Boards, State Capitol Building, Lincoln, at least seven days prior to said date.

Fourth Annual Congress on Industrial Health

Arrangements have been completed for the fourth annual Congress on Industrial Health sponsored by the American Medical Association, which will be held Monday and Tuesday, Jan. 12-13, 1942, at the Palmer

House in Chicago. These meetings are open to physicians and others interested in industrial health. There is no registration fee.

Book Accounts and Federal Income Tax

There has been much discussion of late regarding the recent amendment of the Income Tax Law as it pertains to accounts in the estate left by a physician. Inquiry was made in the Bureau of Legal Medicine and Legislation of the American Medical Association, and the reply as kindly issued by Acting Director J. W. Halloway, Jr., is here published for information of our readers. The Journal wishes to express its appreciation for this prompt service.

The amendment reads as follows:

> **"In the case of the death of a taxpayer there shall be included in computing net income for the taxable period in which falls the date of his death, amounts accrued up to the date of his death if not otherwise properly includible in respect of such period or a prior period."**

Under this provision, if a federal income taxpayer dies during the tax year, who has customarily executed his returns on the cash receipt basis, the returns for the tax year of death must include as income not only cash receipts but a fair value of the outstanding accounts on the books of the taxpayer at the time of his death. The applicability of this provision to physicians is aptly illustrated in a case an abstract of which was published in The Journal, May 24, 1941, page 2426. In that case, Pfaff, et al vs. Commissioner of Internal Revenue, 113 F. (2d) 114; 61 S. Ct. 783, two or possibly more physicians were engaged in the practice of medicine on a partnership basis. One physician died, dissolving the partnership. Under the agreement under which the partnership was operating the deceased physician was entitled to share in the book accounts of the partnership to the extent of $27,000, face value. The local Collector of Internal Revenue determined that a fair appraisal of the decedent's interest in the partnership accounts was about one-fifth of face value and that this amount was properly includible as income for the year in which the physician died. The Supreme Court of the United States upheld the Collector's determination.

The situation that prompted the 1934 amendment was that if a taxpayer died who had been on a cash receipt basis for federal income tax purposes, the collectible accounts outstanding on the books of the taxpayer at the time of his death escaped the provisions of the income tax law. No income tax was paid on such accounts by anyone, even though the face value of each account was collected. Now while this situation possibly justified a remedy, the one that was devised seems to us to be more unfair to the taxpayer than the unremedied situation was to the government. The result, of course, is that the income of the taxpayer is built up artificially for the year of death by the inclusion of uncollected accounts. This normally brings into the picture higher surtax rates and may impose a hardship on the estate of the taxpayer to provide sufficient cash to pay the tax.

Whether anything can be done to induce Congress to remedy the situation created by the 1934 amendment is a matter about which we can only hazard a guess. We are making an effort, however, to have Congress amend the section that has created the difficulty. It has seemed to us that if the section could be amended so as to make the outstanding accounts on the books of a taxpayer at the time of his death taxable under the income tax law as collected, then some relief would be afforded.

Pending action by the Congress, several suggestions have been offered as to procedures that a physician may adopt during his lifetime to lighten the income tax load on his estate created by reason of the outstanding accounts. I pass these suggestions along to you.

A physician should refrain from entering, on his books, accounts due from patients where the accounts are of doubtful collectibility or known to be uncollectible. The estate may have trouble in proving that an account is bad and in getting an allowance on it, resulting in the payment of income tax on an account which will, in fact, never be collected.

A physician should at least annually write off known bad accounts. To carry bad accounts on the books for years will subject the estate of the taxpayer to the necessity of proving the uncollectibility of the account and evidence showing uncollectibility may be difficult to procure. In this connection, some physicians, I understand, follow a practice of entering on their books charges for services rendered to patients who are admittedly charity cases, even though there is no intention ever to collect or to attempt to collect the charges. Whatever reason a physician may have for doing this, the practice will complicate the duties of the administrator or executor of the estate of a deceased physician who has followed the practice. The administrator or executor may have no way of determining, from the books of the taxpayer, whether a particular account represents a purely charity case and may attempt to arrive at an estimated fair value of the account for income tax purposes, despite the fact that the services rendered were rendered with the definite understanding between the physician and the patient that they were in the category of a charity. Not only may such a practice give rise to misunderstandings between the patient and the estate but the administrator or executor may have difficulty in convincing the Collector of Internal Revenue of the intent of the physician to make no charge for his services even though a book entry was made indicating a charge.

A physician should by all means keep in his files, readily available for use by his estate on his death, all procurable information which will be of aid in making a determination with respect to the collectibility or uncollectibility of an account of a particular patient. Information of this character may be obtained from the patient or it may come to the notice of the physician from other sources.

Finally, if the book accounts of a physician represent a substantial amount, he should anticipate the fact that on his death a substantial income tax may be payable, by setting aside sufficient cash to take care of the taxes or by providing insurance to cover them. Otherwise the estate may have to be liquidated at a sacrifice to provide the necessary cash. A physician will do well to consult an attorney or an accountant for the purpose of estimating the amount of such taxes so that he may make adequate provisions during his lifetime to prevent any unnecessary strain on his estate after his death.

P. S. I should refer to the fact that in 1934 when section 42 was amended, the Congress also amended section 43 relating to the period for which deductions and credits may be taken by providing that "in the case of the death of a taxpayer there shall be allowed as deductions and credits for the taxable period in which falls the date of his death, amounts accrued up to the date of his death (except deductions under section 23 (o)) if not otherwise properly allowable in respect of such period or a prior period." This amendment supplemented, of course, the amendment to section 42 and the overall result is that for the year of death of a taxpayer who has been on a cash receipt basis for federal income tax purposes, accrued income must be reported and accrued deductions and credits may be taken, except deductions under section 23 (o) relating to charitable and other contributions."

J. W. H.

The Annual Assembly of state secretaries and editors of state medical journals was held in headquarters of the American Medical Association in Chicago, November 14-15. The theme of the discussion centered around Medical Defense in what was then considered an approaching National Emergency. Much has happened since then. One of the highlights of the meeting was a first hand description of the functions and operations of the Procurement and Assignment Service.

It was a privilege to have Dr. Sam F. Seeley meet the Council and other officers of the Nebraska State Medical Association in Omaha on December 16. Dr. Seeley's address is quoted directly from manuscript which he kindly supplied for this Journal.

THE PROCUREMENT AND ASSIGNMENT SERVICE

By Sam F. Seeley, M. D.
Executive Officer Procurement and Assignment Service

Before entering upon a discussion of the functions of the new Procurement and Assignment Service of the Office of Defense Health and Welfare Services, recently organized in Washington, D. C., I wish to convey to you the appreciation of the Directing Board of the Procurement and Assignment Service for your splendid and whole-hearted cooperation in arranging this meeting on such a short notice. Doctor Frank Lahey of Boston, Chairman of the Directing Board of the Procurement and Assignment Service has requested that I appear before you, in order that I may explain to you the mission of the Procurement and Assignment Service.

I am certain that it will be a great source of satisfaction to you to know that the medical profession of this country anticipated many months ago the necessity of formulating a program which would ensure the best professional care of the armed forces, the industrial and civil agencies of our country. Under the direction of the President, the Office for Emergency Management has set up three distinct agencies charged with mobilization of our national resources in order that the best possible medical care may be given to every member of our country. These three agencies are as follows: (1) The Health and Medical Committee of the Office of Defense Health and Welfare Services, which functions in an advisory capacity; (2) The Office of Scientific Research and Development, which is conducting a broad program of medical research under the auspices of Doctor Richards of Pennsylvania, Chairman of the Committee on Medical Research, and (3) The Procurement and Assignment Service of which I will speak later.

The Health and Medical Committee is composed of a "main" committee, consisting of Doctor Abell of Louisville, Kentucky, the Surgeons General of the U. S. Army, U. S. Navy, the U. S. Public Health Service, and Doctor Richards. Subcommittees under the Health and Medical Committee assist in formulating national policies in reference to Medical Education, Hospitalization, Industrial Health and Medicine, Nursing, Negro Health and Dentistry.

All matters pertaining to medical research are carried out by the Medical Division of the National Research Council of the National Academy of Sciences. Doctor Weed, who is Chairman of the Medical Division of the National Research Council has organized ten major committees with the necessary subcommittees, which are engaged in carrying out every conceivable angle of medical research which will contribute to the national emergency program. More than two hundred of the most noted scientists of this country are engaged in carrying out research problems under the auspices of the National Research Council. Liaison officers from the Army and Navy carry problems from the Professional Service Division of those Services to the various committees of the National Research Council. These committees transmit to the Surgeons General resumes of the best known methods of treatment of all diseases and injuries. Research problems are drawn up and allocated to laboratories throughout the entire country. The National Research Council committees assist in drawing up of memoranda which are transmitted to the medical officers of the Army and the Navy and which may be used as a basis for treatment along the most modern lines.

As early as June, 1940, the Surgeon General of the United States Army requested that the American Medical Association assist in the procurement of the necessary personnel for an Army of one and one-half million men. The American Medical Association started immediately in the drawing up of rosters of all of the physicians of the United States. Shortly after this, the American Dental Association also drew up rosters of the dental profession. At the present time the American Veterinary Medical Association is engaged in drawing up rosters of all of the practicing veterinarians of the country. These rosters have served to assist the Surgeon General of the Army in obtaining medical department personnel to carry out the duties incident to the maintenance of an Army of 1,700,000 men.

In April, 1941, the Subcommittee on Medical Education of the Health and Medical Committee passed a resolution to the "main" committee recommending that a central agency be set up for the purpose of procuring and assigning medical, dental and veterinary personnal to the armed services with a view of maintaining adequate professional care for the industrial population and the civilian population of this country. This resolution was accepted by the Health and Medical Committee, and at the meeting of the American Medical Association in Cleveland in June, 1941, this resolution was endorsed and passed back to the Health and Medical Committee. This Committee met on October 22 to initiate the development of a Procurement and Assignment Service. At that meeting the members of the Health and Medical Committee sought the consultation and advice of the leading medical and dental people of the United States. Liaison officers from practically every Government agency, including Selective Service and the Office of Civilian Defense, aided in drawing up this program. At this meeting a Commission was appointed by the Health and Medical Committee which was requested to draft a program for a Procurement and Assignment Service. At this point developments moved rapidly forward. The Commission met on October 28th and recommended the setting up of the Procurement and Assignment Service. Their recommendations were forwarded to the President by the Director of the Office of Defense Health and Welfare Services, and were approved by the President on October 30th. The President has named the following members to serve on the Directing Board: Dr. Frank H. Lahey of Boston, Chairman; Dr. C. Willard Camalier, Washington, D. C.; Dr. Harold S. Diehl, Minneapolis, Minnesota; Dr. James E. Paullin, Atlanta, Georgia; and Dr. Harvey B. Stone, Baltimore, Maryland. Dr. Sam F. Seeley, at that time on duty in the Office of the Surgeon General, was named as Executive Officer to the Directing Board and by direction of the President, has been transferred from the War Department to serve as Executive Officer in a full-time capacity. Committees were formed immediately on Dentistry, Hospitals, Industrial Health, Information, Medical Education, Negro Health, Public Health, Veterinary Medicine, and Women Physicians. Liaison officers have been assigned by the Army, Navy, U. S. Public Health Service, Veterans Administration, Selective Service System, U. S. Civil Service Commission, Office of Civilian Defense, and the Division of Health Services, Children's Bureau, Washington, D. C.

The primary objective of the Procurement and Assignment Service is to maintain a complete list of all physicians, dentists, and veterinarians of the entire country with detailed information as to age, physical condition, professional qualifications, and availability for service in the various military, civil and industrial agencies of the country. This information has been tabulated on the punch card system. All agencies of the Government which utilize the services of physicians, dentists and veterinarians will make requisition upon the Procurement and Assignment Service for personnel. These requisitions will state the age, professional qualifications, and the physical condition of those professional people whose services are desired by these agencies. Lists will be prepared from the rosters and forwarded to the requisitioning agency. These agencies will then enlist the services of these professional people. At the same time, the Procurement and Assignment Service will notify the people whose names have been tendered to the requisitioning agency that they have been chosen to enter upon their new duties.

Through the various committees serving the Procurement and Assignment Service, surveys are rapidly being made of all of the facilities of the United States. For example, every hospital will be canvassed and they will be asked to state the minimum number of professional people required to maintain adequate care of the sick of these institutions. In the same manner, the needs of school faculties, industrial organizations, national, state and county health organizations, and other agencies, both military and civil, will be surveyed.

The organization of the Procurement and Assignment Service is practically complete. The central office in Washington, D. C., has been set up, and a Regional Office is being set up in Chicago, which will maintain the rosters of the American Medical, Dental, and Veterinary Medical Associations. Committees are being named in each of the nine Corps Areas, which will serve in an advisory capacity to the Corps Area Commander. Incidentally, these geographical Corps Areas of the Army coincide exactly with the Defense Areas set up by the Office of Civilian Defense. The Committees serving in each Corps Area will consist of a representative of medical education, a representative of hospitals, a representative of the national preparedness committee, and at least two well-known civilian practitioners of that territory who are acquainted with the professional people and with the needs of those areas. At present the committees are being set up within the Corps Areas in each of the States and these State Committees will be asked in the very near future to develop committees within their districts and counties in order that the many functions of the Procurement and Assignment Service may be carried down to the last county of the country. I am now en route to Chicago where, on December 18th, the Directing Board will meet with the members of the Committees on Preparedness of the American Medical, Dental, and the Veterinary Medical Associations, at which time a program will be drawn up and shortly thereafter the States will be asked to complete the organization within their area.

The functions of this Service are broadly two in character, procurement and assignment. In order to maintain the existing rosters and to determine the professional qualifications of professional personnel, also to determine the needs of the medical training institutions, hospitals, the health departments, industrial organizations and civil communities, the committees of each county will forward to the central office through their state committees information which will serve to ensure proper distribution of professional personnel in every capacity. These committees will be asked to serve in the conduct of surveys by the various committees of the Procurement and Assignment Service. To date, more than 1,900 of the more than 3,000 counties of the United States have been completely surveyed and reports are now on file in the office upon which the needs of the community and the availability of personnel of those communities may be judged.

Assignment of professional personnel will be based upon the information gained through these various communities. As far back as July of 1940 more than fifty per cent of the first one hundred and fifty thousand physicians who answered questionnaires volunteered for military service in case of war. Under the present circumstances and in view of recent military developments, it is anticipated that the majority of all physicians, dentists and veterinarians are now ready to volunteer for active military service in any capacity which may be best suited to the national defense program. It is hoped that the functions of the Procurement and Assignment Service may be facilitated by the early volunteering of the professional people throughout this country. It is our hope that so many will volunteer to serve in any capacity which the Service may predetermine that we will be able to satisfy at an early date the needs of the military service and may turn our attention to an equally important function, that of avoiding disproportionate dislocation of professional people from communities where their services are needed. In this way, the Procurement and Assignment Service expects to minimize the dislocation of professional people from key positions in the civil and industrial communities.

Let us turn for a moment to the assets in terms of professional people of our country today. At the present time, any man under the age of twenty-eight, if physically able, is required to enter the military service. Approximately sixty per cent of those graduating after twelve months of interneship are under the age of twenty-eight. The majority of these men are physically fit and must enter upon military service. The Selective Service System has deferred these men for a time sufficient to guarantee graduation from medical school and the completion of twelve months of interneship. These students have been asked that during the last two years of medical school training they join the Medical Administrative Corps Reserve or a Reserve Corps in the Navy of a like nature. After graduation from college, they are asked to join the Medical Corps Reserve of the Army or the Navy in order that they may be sent to active duty immediately upon completion of the twelve months of interneship. It becomes apparent that if a medical student has not identified himself with the Army or the Navy after the completion of twelve months of interneship, and he is under the age of twenty-eight, that he may be drafted as a private. For this reason, it is necessary that all men engaged in medical education must seek a Reserve Commission in the Army of the United States or in the Reserve Corps of the Navy, in order that their induction into the military service will result in the ultilization of their medical training. During the World War of 1917, the draft age was higher than twenty-eight. At the present time, we are unable to state whether the draft age will be raised and we are unable to surmise what age will be set if the draft age is raised. For this reason, the Directing Board of the Procurement and Assignment Service recommends that every doctor who is physically able to identify himself as willing to enter the military service in case he is needed, It is anticipated that within the next sixty days every physician, dentist, and veterinarian of this country will be canvassed and will be asked to return a questionnaire to the central office of the Procurement and Assignment Service. At that time an estimate will have been made of the number of professional people required by each of the Government agencies, the civil and industrial agencies, and the civil communities. It is anticipated that the names of professional people will be set aside so that they may be forwarded as the needs of the military service expand. Each recipient of a questionnaire will be asked to state his first, second, third and possibly more choices as to what type of service he would prefer to render. Upon analysis of these questionnaires, it is hoped that a sufficient number will have volunteered to serve in the armed forces, in the industrial plants, and in other agencies which would require dislocation from their present locality, so that a minimal disruption of the present conditions will result.

In closing, I wish to impress upon you the necessity of all of those physically fit volunteering to serve in the military services. It is obvious that there are not enough physicians, dentists and veterinarians in the age group under 28 to satisfy the military needs. Let us hope that voluntary enlistment will be sufficient that the draft age will not have to be raised and above all let us hope that it will not become necessary to consider legislation which would make it mandatory that professional people who are physically fit be forced into the military service against their will.

NEWS and VIEWS

Colonel Philip H. Bartholomew, formerly acting director of Health of Nebraska and recently on active duty at Camp Joseph T. Robinson, Arkansas, is now stationed in Lincoln succeeding Dr. Carroll D. Evans as medical advisor of the state headquarters of selective service.

Dr. Robert D. Schrock of Omaha was the guest speaker at the post-graduate medical assembly of South Texas, in Houston, last November.

Dr. Paul T. Cash of Omaha, was guest speaker before the Illinois Psychiatric Society in Chicago, December 4. The title of his address was "Combined Curare-Electro-Shock Therapy."

Dr. James F. Kelly of Omaha, addressed the American Radiological Society at San Francisco, December 2.

Dr. W. S. Petty, formerly of the Sioux City Health Department, has joined the Nebraska State Health Department.

The following item is taken from the State Journal of Lincoln, under date line of November 24, 1941:

> The supreme court was asked Saturday, by the the attorney for Dr. J. B. Pandau, to rule that the statute which outlaws charges after four years does not apply to accounts kept by physicians with pa-

tients whom they serve as family doctor. He says the decision is of importance to all doctors in general practice in the state, as the district court of Morrill county ruled that all that Lawrence Boyer owed him was a dollar, and that all previous charges beyond the four years when suit was brought were outlawed. He asks the court to rule that these are running accounts, and that the last item made in the statutory period draws after it all items beyond that time. The fact that a year and nine months elapsed between the last two charges, he argues, does not create the hiatus of time contemplated by law. In this case the last charge of a dollar was made exactly four years before suit was begun, and the court ruled it was the only one that could be collected. It gave Dr. Pandau $20 for attorney fees, but not costs.

Many communities throughout Nebraska are carrying on active campaigns for immunization against smallpox and diphtheria. It is desirable that many more enter into such health campaigns.

The Nebraska Negro Medical Society of Omaha, a non-profit organization, filed articles of incorporation with the Secretary of State, Frank Marsh, November 20. The object of this society, the article stated, is to promote health movements in Douglas County.

According to Lt. Commander P. H. Quimby of state selective service headquarters, more than 150 of 771 selectees examined at Nebraska pre-induction centers during November were rejected for physical defects. This, the press statement adds, is a much better average than previously maintained in Nebraska. During the past year, it was pointed out, nearly 55% of Nebraska registrants were rejected for physical reasons. 40% of these were rejected by local draft boards, and 15% at the induction centers.

How the United States may avoid mental breakdowns among its armed forces by strict mental and physical examination before induction was described by Dr. Robert Dick Gillespie, psychiatric specialist of the Royal Air Force in the Salmon Lecture in Omaha, recently.

"There are remarkably few cases of psychoneuroses among the members of the Royal Air Force," Dr. Gillespie said. "And this is largely due to the extreme care which is used in selecting them. Only the mentally and emotionally stable get past the weeding out process which precedes acceptance into the R. A. F.

"Moreover, everyone who flies for the RAF and most of the ground force has the 'professional attitude' toward his work, whether he is a pilot or an air gunner, a mechanic or a rigger. His patriotic devotion is reinforced by his pride in his particular technique and his devotion to his job.

"One reason why there are fewer neurotics in this war than in the last," he said, "is the greater importance which is attached to the individual. Even among the infantry today, a man tends to be more and more a technician and less of a 'foot-slogger'."

Another class among which psychoneuroses are virtually unknown is the medical profession. Dr. Gillespie attributed this phenomenon to the fact that doctors also have a 'professional attitude' toward work, because they have a great responsibility to others and have had a realistic education.

"Surprisingly enough," Dr. Gillespie continued, "the war has given birth to two institutions which are highly succcessful as a preventive of psychoneuroses. They are air raid shelters and Community Centers."

Emphasizing the social aspect of psychoneuroses, which he defined as "a social disorder of the individual," Dr. Gillespie said, "We have learned that shelter life with its common sharing of danger has helped people to withstand peril better than isolation in small groups, which often contributes to the development of psychoneuroses. The feeling of being with others during an air raid, even in an insecure shelter brings courage.

"Moreover," Dr. Gillespie continued, "shelter life and community centers fill a need for companionship and entertainment which were hitherto unmet. In large cities, before the war, we had the paradox of want amid plenty, social want in the midst of social possibilities.

"Now we find persons returning from safe areas to the shelters in large cities declaring 'I'd rather be bombed than bored'."

Dr. Gillespie named as one of the most significant symptoms of psychoneuroses the apathy noted in the battle-worn soldier as well as in those whose homes have been destroyed and whose lives are completely disorganized.

"Activity of some sort," the speaker continued, "is a necessary condition of happiness and for many people a necessary preventive of psychoneurotic or anti-social behavior. It is important for psychiatrists to recognize the apathy or restlessness which may precede psychoneuroses or anti-social acts.

"In wartime," he pointed out, "this apathy often precedes symptoms of psychoneuroses among soldiers and fliers. Or else the continual thwarting of the desire for activity produces restlessness and irritability followed by rebellion."

Medical Shortage

The number of physicians and surgeons does not increase with population nor follow the trend of migrations.

There are fewer physicians in country towns now than ever before, according to the AMA officials, and there are fewer in the cities, too. The exigencies of war and training have added to the confusion and the shortage.

Perhaps the medical profession, like the printing trades, should adopt the apprentice system.

WOMAN'S AUXILIARY

President—Mrs. M. C. Green
2412 No. 53rd Street, Omaha, Nebr.
President-elect—Mrs. C. Fred Ferciot
Lincoln, Nebr.
First Vice-President—Mrs. A. L. Miller
Lincoln, Nebr.
Second Vice-President—Mrs. Herbert Davis
Omaha, Nebr.
Treasurer—Mrs. Harry Flansburg
Lincoln, Nebr.
Publicity Chairman—Mrs. W. H. Morrison
513 No. 41st Ave., Omaha, Nebr.

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

A new auxiliary was organized November 7th in Cass County, Nebraska, with Mrs. O. E. Liston of Elmwood, Nebraska, the new president.

Dr. and Mrs. M. C. Green of Omaha, attended the first meeting December 15th. Mrs. Green is the president of the State Auxiliary.

Members of the Adams County Medical Society and its Auxiliary organization had separate meetings following a dinner together at Ingleside, Dec. 3.

Mrs. O. A. Kostal presided at the auxiliary meeting at which members sewed for the Red Cross. As program, the group heard music by the Glee Club having nurses in training as members, and a discussion of parliamentary law by Mrs. Charles E. Abbott of Minden.

Doctors of the Sixth Councillor District and the Women's Auxiliary met at Scott Hall in Stromsburg Monday evening, Nov. 17. A lovely dinner was served by the ladies of the Green's Chapel Church to about thirty-five. After the dinner was over, the women went to the home of Mrs. Willard N. Blome to hold their meeting, while the doctors remained at the hall for their discussion.

American Medical Association Broadcasts

"Doctors at Work," the dramatized radio program broadcast by the American Medical Association and the National Broadcasting Company will go on the air for its second season beginning December 6, 1941, from 5:30 to 6:00 p. m., Eastern Standard time (4:30 to 5:00 p. m., Central Standard time; 3:30 to 4:00 p. m., Mountain Standard time; 2:30 to 3:30 p. m., Pacific Standard time). The program will be broadcast on upwards of seventy-five stations affiliated with the Red Network of the National Broadcasting Company and will be heard from coast to coast.

"Doctors at Work," a successful, serialized story broadcast last year dealt with the experiences of a fictitious but typical American boy choosing medicine for his vocation and proceeding to acquire the necessary education and hospital training for the private practice of medicine. Interwoven with the personal story of young Doctor Tom Riggs and his fiancee, Alice Adams, was the romance of modern medicine and how it benefits the doctor's patients.

The new series of broadcasts will resume where last year's story left off, namely, with the marriage of Tom Riggs and Alice Adams, and the subsequent life of a young doctor and his wife in time of National Emergency in a typical, medium-sized American City.

The program will be available to all stations affiliated with the Red Network of the National Broadcasting Company. Announcements should be sought in local newspaper radio columns under the title "Doctors at Work" or possibly "American Medical Association" or in some instances, "Health Broadcasts." Evidence of local interest in the program may be the determining factor in whether a local station takes this educational, sustaining feature or sells its time to a local, revenue producing program.

Equine Encephalitis in Kansas

Evidence that the virus of western equine encephalitis causes disease in human beings in Kansas is reported in The Journal of the American Medical Association for December 6 by James A. Wheeler, M. D., Newton, Kan.

For his investigation he obtained specimens of blood from reported cases of encephalitis occurring in man over the state. The final results showed that 50 per cent of the patients tested showed evidence of protection or antibodies against the western equine virus.

The isolation of the western equine and St. Louis encephalitis viruses from mosquitoes, the author says, suggests the mosquito as a vector or carrier of the virus. This vector theory, he points out, is further supported by the fact that "In Kansas the incidence of poliomyelitis, encephalitis and equine encephalitis ceases abruptly with the fall frosts."

Contrary to a popular belief, cheese is not really hard to digest for normal persons, Doris McCray, Cedar Rapids, Iowa, points out in a recent issue of Hygeia, The Health Magazine. "But," she qualifies, "it should never be added, as a superfluous item, to an already complete meal. Cheese should be served with bread, toast or crackers, or other cereal food, and with fruit and vegetables, as is the common practice . . . . To serve cheese with pie at the end of a heavy meal that included meat obviously would be superfluous."

Membership Roster as of December 31, 1941

FIRST DISTRICT

Warren Y. Thompson, Councilor

OMAHA—

Adams, Payson
527 Medical Arts
Allen, John F.
912 Medical Arts
Andersen, M. C.
1120 Medical Arts
Anderson, Harley E.
912 Medical Arts
Arnsten, L. L.
456 Aquila Court
Attwood, N. H.
Camp Robinson, Ark.
Baca, Don E.
Papillion, Nebr.
Baker, Chas. P.
Methodist Hospital
Bantin, C. F.
626 Omaha L. & B.
Bantin, E. W.
440 Aquila Court
Baptist, John
303 Neville Block
Barry, M. W.
1416 Medical Arts
Bean, Francis J.
University Hospital
Beber, Meyer
631 Medical Arts
Beck, F. O.
Livestock Natl. Bank
Benner, Miriam C.
3014 E. 17th Blvd.,
Denver, Colo.
Bennett, A. E.
607 Medical Arts
Best, R. Russell
527 Medical Arts
Betz, W. H.
724 City Natl. Bank
Bisgard, J. Dewey
1418 Medical Arts
Black, Eugene W.
State Hospital,
Glenwood, Iowa
Bleick, L. C.
830 City Natl Bank
Bliss, Rodney W.
1120 Medical Arts
Block, Max
432 Brandeis Theatre
Boetel, George H.
2912 Ames St.
Boler, Thomas D.
729 Barker Bldg.
Borghoff, J. A.
1319 Medical Arts
Bowers, Warner F.
Ft. Leonard Wood,
Mo.
Boyne, H. N.
1002 City Natl. Bank
Brandt, Emelia H.
602 Omaha L. & B.
Assn. Bldg.
Brazer, J. G.
602 Omaha L. & B.
Assn. Bldg.
Brodkey, M. H.
320 Medical Arts
Brown, Alfred
1618 Medical Arts
Brown, Willis E.
Nebr. Uni. Col. Med.
Burns, B. C.
421 Farm Credit Bldg.
Burroughs, Ruth R.
620 Omaha L. & B.
Assn. Bldg.
Bushman, L. B.
627 City Natl. Bank
Callfas, W. F.
Park Manor, 6th and
Spruce, San Diego
Cameron, O. J.
1520 Medical Arts
Carnazzo, S. J.
712 Barker Bldg.
Cash, Paul T.
607 Medical Arts
Cassidy, W. A.
1020 Medical Arts
Catania, Nancy
418 Brandeis Theatre
Christensen, Julius B.
1326 Medical Arts
Christie, B. W.
208 Barker Bldg.
Christlieb, J. M.
4702½ So. 24th St.
Clarke, F. S.
314 Medical Arts
Cloyd, A. D., Jr.
316 Medical Arts
Cloyd, A. D., Sr.
Insurance Bldg.
Coakley, L. P.
920 Medical Arts
Comine, J. J.
820 Medical Arts
Conlin, F. M.
1414 Medical Arts
Connolly, E. A.
507 Medical Arts
Cook, Lyman J.
311 Medical Arts
Courtney, J. E.
730 City Natl. Bank
Davis, Edwin G.
1436 Medical Arts
Davis, Herbert H.
1204 Medical Arts
Davis, J. Calvin
425 Aquila Court
Davis, W. W.
1007 So. 37th St.
DeLanney, L. A.
721 Medical Arts
DeLong, Henry L.
Ft. Riley, Kansas
Dendinger, W. M.
1036 Redick Tower
Dishong, G. W.
1527 Medical Arts
Di Stefano, Carmelo
721 Medical Arts
Donelan, James P.
Guarantee Mut. Life
Dow, A. G.
314 Medical Arts
Dowell, D. A.
816 Medical Arts
Downing, John E.
1316 Battery,
Little Rock, Ark.
Drdla, Theodore
460 Aquila Court
Drozda, J. P.
402 Medical Arts
Duncan, J. W.
730 City Natl. Bank
Dunn, F. Lowell
737 Medical Arts
Dwyer, J. R.
820 Medical Arts
Eggers, H. E.
University Hospital
Ellis, P. H.
2405 Ames
Endres, Gregory L.
Military Service
Erman, J. M.
722 World Herald
Evans, E. B.
201 Leflang Bldg.
Everitt, N. J.
7th Corps Area,
Omaha
Ewing, Ben F.
227 Medical Arts
Faier, Samuel Z.
536 Medical Arts
Farrell, Robt. F. M.
528 Medical Arts
Fellman, A. C.
830 City Natl. Bank
Findley, David
446 Aquila Court
Findley, Palmer
446 Aquila Court
Finegan, James
919 Medical Arts
Fleishman, Max
County Hospital
Fouts, Roy W.
1007 Medical Arts
Frandsen, Charles
1622 Medical Arts
Freymann, John J.
1113 Medical Arts
Gardiner, J. F.
627 Medical Arts
Gatewood, John W.
430 Aquila Court
Gedgoud, John L.
Uni. Hospital
Gerald, H. F.
Creighton University
Gifford, Harold
1620 Medical Arts
Green, M. C.
454 Aquila Court
Greenberg, A.
320 Medical Arts
Greenberg, Maynard M.
307 Medical Arts
Greene, Arthur M.
Military Service
Grier, John J.
1307 Medical Arts
Grier, M. E.
1307 Medical Arts
Grodinsky, Manuel
902 Medical Arts
Gross, Joseph F.
636 Medical Arts
Hahn, W. N.
517 City Natl. Bank
Hall, B. W.
2736 No. 61st St.
Hall, Lynn T.
1204 Medical Arts
Hamsa, W. R.
527 Medical Arts
Haney, W. P.
1500 Medical Arts
Hanisch, L. E.
1218 Medical Arts
Hansen, Clifford H.
Ft. Leonard Wood,
Mo.
Hansen, G. M.
4826 So. 24th St.
Hardy, C. C.
1527 Medical Arts
Harris, T. T.
Clarkson Hospital
Hays, E. R.
70 Pine St., New York
City
Hellwig, J. W.
1008 W.O.W. Bldg.
Henrich, Leo C.
Camp Grant, Ill.
Henry, E. C.
430 Aquila Court
Henske, J. A.
1614 Medical Arts
Heumann, J. M. F.
6110 Military Ave.
Hickey, Charles
Bennington, Nebr.
Hill, F. C.
1516 Medical Arts
Hirschmann, H.
454 Brandeis Theatre
Hoffman, L. O.
1120 Medical Arts
Holden, W. J.
Elkhorn, Nebr.
Hollenback, C. F.
5821 Military
Hollister, R. R.
1120 Medical Arts
Holmes, W. E.
1012 Medical Arts
Holst, John
724 City Nat'l Bank
Hotz, Harley
1013 Redick Tower
Howard, M. C.
802 Medical Arts
Hubenka, A. H.
4803 So. 24th St.
Hughes, Leo V.
442 Aquila Court
Hunt, H. B.
Methodist Hospital
Hyde, J. F.
310 Omaha Loan &
Bldg.

Isacson, Sven
410 Aquila Court
Iwersen, Frank J.
Naval Service
Iwersen, J. C.
226 Medical Arts
Jahr, Herman M.
1120 Medical Arts
James, C. S.
615 Medical Arts
Jenkins, Harry J.
1113 Redick Tower
Jensen, Werner P.
502 Medical Arts
Johnson, A. C.
326 Medical Arts
Johnson, Herman F.
831 Medical Arts
Johnson, J. A.
602 Omaha Loan & Bldg.
Jones, Wesley
1514½ No. 24th St.
Judd, J. H.
1020 Medical Arts
Kadavy, G. J.
2703 So. 16th St.
Kani, M. Alace
2228 Jones St.
Keagan, J. Jay
1234 Medical Arts
Kelley, Ernest
1104 City Nat'l Bank
Kelley, J. Whitney
1104 City Nat'l Bank
Kelley, Wm. E.
1319 Medical Arts
Kelly, James F.
816 Medical Arts
Kennedy, H. B.
Insurance Bldg.
Kennedy, John C.
U. of N. Col. of Med.
Kerr, George R.
Clarkson Hospital
Kirk, E. J.
434 Aquila Court
Kleyla, John R.
712 Medical Arts
Korth, Z. N.
1319 Medical Arts
Kroupa, W. E.
4923½ So. 24th St.
Kully, Herman E.
1316 Medical Arts
Langdon, J. F.
614 Omaha Loan & Bldg.
Lanphier, V. A.
2007 Wirt St.
LeMar, J. D.
U. of N. Col. of Med.
Lennox, G. B.
2314½ No. 24th St.
Levine, Victor E.
306 No. 14th St.
Lewis, Raymond G.
434 Aquila Court
Longo, Joseph
Military Service
Lovelady, Ralph
Sidney, Iowa
Lovely, Frank T.
1136 First Nat'l Bank
Luikart, Ralph
1530 Medical Arts
817 W. O. W. Bldg.
Lukovsky, J. F.

McAvin, J. S.
University Hospital
McCarthy, J. D.
1036 Medical Arts
McCleneghan, Sam
615 City Nat'l Bank
McCurdy, Thomas
Creighton University
McDermott, Arnold
712 Medical Arts
McEachen, Esther I.
106 No. 49th St.
McGee, Harry E.
1126 City Nat'l Bank
McGee, J. W.
2906 Leavenworth St.
McGoogan, Leon S.
813 Medical Arts
McGuire, L. D.
326 Medical Arts
McKean, J. W.
Claremont, Calif.
McLaughlin, C. W.
708 Medical Arts
McMartin, Charles
611 City Nat'l Bank
McMartin, W. J.
611 City Nat'l Bank
McNamara, J. W.
633 City Nat'l Bank
MacQuiddy, E. L.
478 Aquila Court
Manning, E. T.
1407 Medical Arts
Marble, R. E.
1221 First Nat'l Bank
Margolin, Morris
902 Medical Arts
Marr, Madeline
Board of Education
Martin, James W.
1418 Medical Arts
Martin, Paul J.
406 Aquila Court
Mason, Claude W.
721 Medical Arts
Mauer, R. T.
612 Omaha Loan & Bldg.
Maxwell, J. T.
1140 Medical Arts
Mercer, Nelson S.
2506 Dodge Street
Millett, Clinton C.
442 Aquila Court
Mnuk, Frank J.
460 Aquila Court
Moody, W. B.
530 Medical Arts
Moon, C. F.
1607 Medical Arts
Moon, Louis E.
1326 Medical Arts
Moore, Clyde
319 Medical Arts
Moran, Clarence S.
Creighton University
Morrison, Wm. Howard
1500 Medical Arts
Morrow, Paul N.
1117 Medical Arts
Moser, R. A.
612 Omaha Loan & Bldg.
Muehlig, W. A.
1516 Medical Arts
Murphy, Albert V.
Ft. Leonard Wood, Mo.

Murphy, F. P.
915 Medical Arts
Murphy, J. Harry
915 Medical Arts
Murray, F. J.
63rd & Maple St.
Nelson, Floyd C.
6067 Military
Nemec, C. J.
629 City Nat'l Bank
Nemec, Edward C.
Ft. Lewis, Washington
Newell, C. H.
615 City Nat'l Bank
Newman, James K.
3907 Leavenworth
Nickum, Oliver C.
524 Brandeis Theatre
Niehaus, F. W.
1622 Medical Arts
Nilsson, John Fred
612 Omaha Loan & Bldg.
Nilsson, John R.
612 Omaha Loan & Bldg.
Nolan, W. J.
203 Baldridge Bldg.
Novak, W. F.
721 Medical Arts
Offerman, A. J.
4826 So. 24th St.
O'Hearn, J. J.
4811½ So. 24th St.
O'Neil, Gerald C.
640 City Nat'l Bank
Osheroff, S. A.
411 Medical Arts
Owen D. R.
1107 Medical Arts
Owens, C. A., Jr.
1426 Medical Arts
Parsons, Antony
Valley, Nebr.
Pinkerton, W. J.
8613 No. 30th St.
Pinto, A. S.
1229 First Nat'l Bank
Pollard, Charles W.
Peru, Nebr.
Potts, John B.
3817 Dewey Ave.
Poynter, C. W. M.
U. of N. Col. of Med.
Pratt, George P.
1234 Medical Arts
Prichard, Geo. W.
3013 Ames Ave.
Pruner, A. C.
411 Medical Arts
Quigley, D. T.
721 Medical Arts
Quigley, W. H.
636 Medical Arts
Rance, W. T.
730 City Nat'l Bank
Rasgorshek, R. H.
425 Aquila Court
Read, Paul S.
2415 Fort St.
Redgwick, J. P.
1530 Medical Arts
Reed, S. G.
306 So. 24th St.
Rich, Charles O.
450 Brandeis Theatre
Riley, B. M.
538 City Nat'l Bank

Robertson, G. E.
307 So. 39th St.
Romonek, Philip
1425 Medical Arts
Rubendall, Clarence
1107 Medical Arts
Rubnitz, A. S.
732 Medical Arts
Russum, B. C.
816 Medical Arts
Sachs, Adolph
527 City Nat'l Bank
Sage, Earl C.
1234 Medical Arts
Schmitz, W. H.
611 City Nat'l Bank
Schrock, R. D.
831 Medical Arts
Schwerthly, F. J.
613 Barker Bldg.
Severin, Matthew J.
4823 So. 24th St.
Sharpe, John C.
1407 Medical Arts
Shearer, W. L.
1226 Medical Arts
Sher, Philip
424 Brandeis Theatre
Shramek, C. J.
510 Redick Tower
Shramek, J. M.
612 Medical Arts
Simanek, George F.
540 Medical Arts
Simmons, E. E.
826 Medical Arts
Simonds, Francis L.
1216 Medical Arts
Simpson, J. E.
1129 First Nat'l Bank
Slutzky, Ben
515 So. 41st St.
Sobota, Jos. E.
North Bend, Nebr.
Solomon, W. W.
2425 No. 24th St.
Srb, Adolph F.
1719 So. 16th St.
Stastny, Olga
3027 Farnam St., Apt 4
Staubitz, Herbert F.
1025½ So. 10th
Stearns, R. J.
620 Omaha Loan & Bldg.
Steinberg, A.
536 World Herald Bldg.
Steinberg, M. M.
Ft. Leonard Wood, Mo.
Stokes, Harry
1620 Medical Arts
Stokes, W. H.
1620 Medical Arts
Strickland, W. R.
514 Omaha Loan & Bldg.
Sucha, W. L.
915 Medical Arts
Sullivan, H. T.
1036 Redick Tower
Sullivan, Kathleen
211 Medical Arts
Swab, C. M.
1316 Medical Arts
Swab, Elizabeth M.
1316 Medical Arts

Swoboda, Jos. P.
4824½ So. 24th St.
Taylor, W. H.
3807 Cuming Street
Thomas, John Martin
301 No. 49th
Thompson, C. Edward
446 Aquila Court
Thompson, C. Q.
1530 Medical Arts
Thompson, Dorothy H.
c/o Dr. Truesdale
Hosp., Fall River,
Mass.
Thompson, Warren Y.
1530 Medical Arts
Thomsen, J. H.
205 So. 37th St.
Tipton, P. W.
454 Aquila Court
Tollman, J. P.
University Hospital
Tomlinson, C. C.
1520 Medical Arts
Tompkins, Charles A.
1234 Medical Arts
Torpy, T. W.
920 W.O.W. Bldg.
Traynor, R. L.
527 City Nat'l Bank
Trimble, C. R.
2402 Ames Ave.
Tyler, A. F.
1216 Medical Arts
Vetter, J. G.
721 W.O.W. Bldg.
Walsh, E. M.
828 Medical Arts
Warta, J. J.
818 W.O.W. Bldg.
Waters, C. H.
1407 Medical Arts
Watke, F. M.
729 Medical Arts
Wearne, F. J.
830 City Nat'l Bank
Weinberg, J. A.
1012 Medical Arts
Wherry, W. P.
1500 Medical Arts
Whitcomb, Glenn D.
926 Medical Arts
Whittlesey, Fred R.
100 Jackson Ave.,
Morgantown, W. Va.
Wigton, H. A.
1614 Medical Arts
Wilhelmj, C. M.
Creighton University
Wilson, Donald J.
Ft. Leonard Wood,
Mo.
Wright, W. D.
1622 Medical Arts
Wyrens, Raymond J.
316 Medical Arts
Young, G. A.
1436 Medical Arts
Young, George A., Jr.
1614 Medical Arts
Young, Richard H.
1436 Medical Arts

SECOND DISTRICT

Clayton Andrews, Councilor

LANCASTER

Lincoln—

Adams, R. B.
Center McKinley
Bldg.
Albin, W. L.
619 Fed. Sec. Bldg.
Alcorn, F. A.
2201 So. 11th
Anderson, A. N.
City Dept. of Health
Nuckolls Co.
Andrews, Clayton F.
824 Sharp Bldg.
Andrus, F. M.
943 Stuart Bldg.
Angle, E. E.
903 Sharp Bldg.
Arnholt, M. F.
935 "R" St.
Arnold, C. H.
908 Terminal Bldg.
Bailey, B. F.
5515 South St.
Bancroft, Paul M.
724 Sharp Bldg.
Barker, James A.
Veterans Hospital
Bartholomew, P. H.
Camp Robinson, Ark.
Becker, W. C.
826 Sharp Bldg.
Black, Paul
929 Stuart Bldg.
Blum, Henry
214 Sec. Mut.
Bowman, D. J.
400 No. 27th
Breuer, M. J.
608 Sharp Bldg.
Brooks, E. B.
Camp Robinson, Ark.
Calhoun, O. V.
430 Stuart Bldg.
Campbell, W. A.
909 Sharp Bldg.
Carveth, W. W.
625 Sharp Bldg.
Churchill, I. W.
200 Bankers Life
Bldg.
Coleman, F. D.
936 Stuart Bldg.
Covey, Geo. W.
805 Sharp Bldg.
Crook, C. E.
4825 St. Paul
Crook, G. D.
4825 St. Paul
Crook, Roy
4825 St. Paul
Cummins, E. D.
1959 South St.
Deppen, E. N.
911 Sec. Mut.
Easton, R. H.
3566 So. 48 Polk Co.
Elliott, C. K.
707 Fed Sec. Bldg.
Emerson, Clarence
1700 So. 24th St.
Emery, A. L.
Waverly, Nebr.
Evans, C. D., Jr.
Sel. Serv. Bureau,
Capitol Bldg. Platte
Co.
Everett, H. H.
417 Woodman Accident Bldg.
Fahnestock, C. L.
510 Sec. Mut. Bulg.
Fechner, A. H.
Lincoln State Hospital
Ferciot, C. F.
1104 Sharp Bldg.
Finkle, B. A.
726 Sec. Mut. Bldg.
Finney, E. B.
323 So. 14th
Finney, L. E.
323 So. 14th
Flanagan, M. L.
5515 South St.
Flansburg, H. E.
415 Bankers Life
Bldg.
Frary, R. A.
Baltimore, Md.
Frazer, M. D.
1729 So. 12th
Furgason, A. P.
303 Richards Blk.
Garlinghouse, R. E.
1037 Stuart Bldg.
Gibson, L. V.
908 Terminal Bldg.
Graham, Alice
1701 So. 24th
Gray, Richard W.
Lincoln State Hospital
Haentzschel, L. W.
Ft. Snelling, Minn.,
Hancock, E. W.
820 Sharp Bldg.
Hansen, E. M.
Deceased 11-12-41.
Harms, C. W.
927 Sec. Mut. Bldg.
Harvey, H. E.
809 Sharp Bldg.
Hickman, C. C.
1028 Stuart Bldg.
Hilton, D. C.
305 Richard Blk.
Hobbs, E. T.
Camp Robinson, Ark.
Hohlen, K. S. J.
914 Fed. Sec. Bldg.
Hompes, J. J.
702 Sharp Bldg.
Hummel, R. O.
1025 Sharp Bldg.
Johnson, F. B.
1110 Sharp Bldg.
Johnson, Robert W.
Camp Robinson, Ark.
Jones, T. K.
Lincoln State Hospital
Lamb, W. E.
Sprague, Nebr.
Lehnhoff, H. J.
1037 Stuart Bldg.
Lewis, G. E.
322 Nat'l Bank Com.
Longacre, C. H.
711 So. 37th
Loomis, J. J.
908 Terminal Bldg.
Loveland, Grace
1108 Sharp Bldg.
Loudon, John R.
924 Sharp Bldg.
Lyman, R. A.
1649 So. 21st
McCarthy, T. F.
202 Lib. Thtr. Bldg.
Marx, L. E.
901 Fed. Sec. Bldg.
Marx, Paul D.
Camp Grant, Ill.
Merideth, J. A.
Camp Robinson, Ark.
Meyer, A. J.
800 So. 13th
Miller, N. R.
505 Sec. Mut.
Miller, S. D.
5515 South St.
Misko, G. H.
1107 Fed. Sec. Bldg.
Morgan, H. S.
935 Stuart Bldg.
Morton, H. B.
1037 Stuart Bldg.
Moyer, T. C.
1110 Sharp Bldg.
Munger, A. D.
1015 Sharp Bldg.
Munger, I. C.
916 Sharp Bldg.
Neely, J. Marshall
1022 Sharp Bldg.
Olney, R. C.
800 So. 13th
Orr, H. W.
307 Sharp Bldg.
Owen, L. J.
954 Stuart Bldg.
Palmer, R. B.
1016 Sharp Bldg.
Pelikan, C. C.
1037 Stuart Bldg.
Peterson, J. C.
702 Sharp Bldg.
Podlesak, J. J.
921 Stuart Bldg.
Rausten, David S.
3715 So. 48th
Reed, E. B.
1037 Stuart Bldg.
Reese, S. O.
816 Sharp Bldg.
Reinhard, O. A.
1037 Stuart Bldg.
Rembolt, Ray R.
1037 Stuart Bldg.
Reynolds, R. W.
404 Barkley Bldg.
Reynolds, Verne J.
908 Terminal Bldg.
Rider, E. E.
Forest Hill Hotel,
Pacific Grove, Calif.

Rogers, F. L.
805 Sharp Bldg.
Rowe, E. W.
1037 Stuart Bldg.
Royal, P. A.
2155 So. 52nd
Sanderson, D. D.
914 Stuart Bldg.
Scott, H. A.
600 So. 74th
Sharrar, Lynn
Ft. Leavenworth
Sherfey, Carl W.
1029 Sumner St.
Smith, A. L.
1001 Fed. Sec. Bldg.
Snipes, J. J.
Camp Custer, Mich.
Spradling, C. R.
Hallam, Nebr.
Spradling, F. L.
Lincoln State Hospital
Stapleton, H. B.
Hickman, Nebr.
Stein, Robert J.
1035 Stuart Bldg.
Strader, R. M.
308 Sec. Mut. Bldg.
Taborsky, A. F.
308 Sec. Mut. Bldg.
Teal, F. F.
910 Sharp Bldg.
Teal, Fritz, Jr.
307 Sharp Bldg.
Thomas, J. W.
1115 Sharp Bldg.
Thompson, J. C.
707 Fed. Sec. Bldg.
Thomson, J. E. M.
1104 Sharp Bldg.
Underwood, G. R.
Naval Reserve,
Omaha
Walker, G. H.
412 Ins. Bldg.
Warner, Ruth
954 Stuart Bldg.
Webb, A. H.
827 Sec. Mut .
Wegner, E. S.
724 Sharp Bldg.
Welch, J. S.
1037 Stuart Bldg.
Whitham, Roy H.
Hotel Karcher,
Waukegan, Ill.
Wiedman, E. V.
315 First Nat'l Bank
Williams, J. P.
914 Stuart Bldg.
Wilson, W. H.
1901 Washington St.
Wood, Maynard A.
1037 Stuart Bldg.
Woodward, J. M.
910 Sharp Bldg.
Wright, F. T.
905 Stuart Bldg.
Zemer, S. G.
949 Stuart Bldg.

CASS

Avoca—
Brendel, J. W.

Elmwood—
Liston, O. E.

Greenwood—
Talcott, N. D.

Louisville—
Worthman, H. W.

Murdock—
Formanack, C. J.

Murray—
Tyson, R. W.

Nehawka—
Andersen, R. R.

Plattsmouth—
Eaton, Wilbur S.
Westover, R. P.

OTOE

Burr—
Mayer, C. F.

Nebraska City—
Barritt, J. L.
Crudup, C. P.
Ewing, Ben E.
Gilligan, J. P.
Kenner, W. C.
MacVean, M. M.
Ramacciotti, W. S.
Stonecypher, D. D.
Weekes, T. L.
Zimmerer, C. G.

Otoe—
Dieter, L. D.

Palmyra—
Charlton, C. P.

Syracuse—
Williams, C. R.

Thorough, Paul
734 Penn St., Germantown Hosp.
Philadelphia, Pa.

THIRD DISTRICT

W. E. Shook, Councilor

GAGE

Adams—
Swartwood, F. M.
Ft. Lewis, Wash.
Waggener, J. T.

Beatrice—
Bradley, C. A.
Brown, H. R.
Bryant, A. R.
Buchanan, Rea
Buckley, F. W.
Burford, James A.
Elias, H. F.
Ft. Crook, Omaha, Nebr.
Fall, C. P.
Deceased 7-26-41.
Hepperlen, H. M., Jr.
Leibee, J. R.
McCleery, D. P.
McGirr, J. E.
Noble, Roy C.
Penner, H. G.
Penner, L. E.
Rush, W. A.
Ft. Leonard Wood, Mo.
Skinner, Almeron O.
Taylor, R. W.
Waddell, J. C.
Waddell, J. C.
Waddell, W. W.
Wildhaber, Wm. T.

Blue Springs—
Warner, E. A.

Cortland—
Schowengerdt, F. T.

Filley—
Hodam, J. A.

Liberty—
Bachle, E. P.

Odell—
Rice, C. E.

Pickrell—
Lee, Amesbury

Hanover, Kansas—
Hurtig, H. G.

Wymore—
Elias, Francis
Gafford, Chas. C.
Thomas, C. W.

PAWNEE

Pawnee City—
Anderson, A. B., Jr.
Boyer, W. R.
Flory, Paul J.

Table Rock—
McCrea, E. L.

NEMAHA

Auburn—
Cline, Edgar
Irvin, I. W.
Krampert, F. L.
Lorance, B. F.
Lutgen, C. A.
McAleer, E. C.
Smith, B. A.
Tyler, E. M.
Tushla, F. M.

Peru—
Joder, G. H.
Cheyenne, Wyo.
Thomson, Bertha M.

RICHARDSON

Falls City—
Cowan, S. D.
Gillispie, J. S.
Greene, J. M.
Henderson, R. G.
Hustead, C. L.
Ketter, W. D.
Lennemann, Ernest
Miner, H. R.
Wilson, M. L.
Youngman, Robert A.

Humboldt—
Heim, H. S.
Ft. Leonard Wood, Mo.
Waggener, J. A.

Rulo—
Shepherd, Wm.

Salem—
McArdle, Geo. M.

Shubert—
Shook, W. E.

Verdon—
Medlar, C. A.

JOHNSON

Cook—
Conlee, C. C.

Sterling—
Turner, J. W.

Tecumseh—
Fitzsimmons, A. P.
Lanspa, J. A.
Rubelman, G. J.

FOURTH DISTRICT

E. L. Brush, Councilor

MADISON

Battle Creek—
Rudloff, R. X.

Madison—
Bruce, J. J.

Meadow Grove—
Kindred, H. L.

Newman Grove—
Frink, F. L.
Jensen, Frank

Norfolk—
Barry, A. C.
Brauer, S. H.
Brinegar, Willard
Brush, E. L.
Charlton, Geo. E.
Conwell, G. D.
Farner, B. R.
Howley, A. N.
Pollack, F. A.
Salter, Geo. B.
Camp Robinson
Sandritter, G. L.
Ft. Leonard Wood, Mo.
Schwedhelm, A. J.
Stark, Lucien
Stewart, Geo. J.
Verges, C. J.
Winkle, V. M.

Tilden—
Young, G. A.
Salsburg, H. E.

CUMING

Beemer—
Pierson, C. A.

Bancroft—
Frances, H. W.

West Point—
Anderson, A. W.
Collins, L. G.
Ft. Ord, Calif.
Robbins, H. M.
Thompson, I. L.
Thompson, L. L.

Wisner—
Hansen, Warren D.
Riley, L.

PIERCE

Osmond—
Mailliard, A. E.
Rodgers, C. E.

Pierce—
Calvert, John H.
Devers, W. I.

Plainview—
Johnson, M. A.
Nye, F. H.

KNOX

Creighton—
Burrell, R. H.
Wright, W. E.

Bloomfield—
Carrig, M. H.
Kohtz, R. H.

Crofton—
McNamara, R. B.
Swift, C. H.

Niobrara—
Green, Carl R.

Wausa—
Johnson, R. E.

STANTON

Pilger—
Reid, J. D.

Stanton—
Allen, S. G.
Tennant, H. S.

ANTELOPE

Clearwater—
Bennie, J. W.

Elgin—
McClelland, E. E.
300 W 41 St.
Shadyside, Ohio

Neligh—
Curtis, E. E.
Hall, M. Freeman
Harrison, U. S.

Orchard—
Fletcher, D. L.
Fletcher, W. G.

CEDAR

Coleridge—
Dewey, F. G.

Hartington—
Dorsey, F. P., Jr.
Dorsey, F. P., Sr.
Johnson, J. M.
King, J. W.
Deceased 8-27-41.

Laurel—
Carroll, R. P.

Randolph—
Cook, A. E.
Cook, S. H.
Rock Rapids, Iowa
Gleason, B. F.
Peters, G. E.

DIXON

Newcastle—
Richards, R. C.

Ponca—
Bray, R. A.
Jones, W. Y.

Wakefield—
Coe, C. B.
Coe, C. Max

THURSTON

Emerson—
Kildeback, J. C.

Pender—
Bradley, James D.
Luhman, F. W.

Walthill—
Graham, J. R.

DAKOTA

Homer—
Larsen, A. A.

South Sioux City—
Blume, W. R.
Legg, C. E.
Neill, C. W.

WAYNE

Wayne—
Benthack, Walter
Blair, E. S.
Ingham, C. T.
Kilian, L. J.

Winside—
Craig, D. O.

FIFTH DISTRICT

W. R. Neumarker, Councilor

DODGE

Dodge—
Kenney, B. V.
Srb, G. J.

Fremont—
Buchanan, A. E.
Byers, R. C.
Fasser, A. O.
Harvey, Andrew
Haslam, G. A.
Heine, L. H.
Heine, W. H.
Merrick, A. J.
Moore, C. G.
Morrow, H. H.
Morrow, H. N.
Reeder, Grant
Richardson, Ira F.
Seiver, Charlotte
Van Metre, R. T.

Hooper—
Hauser, Bryan
Heine, C. S.

North Bend—
Byers, G. A.

Scribner—
Stehl, C. H. L.

WASHINGTON

Arlington—
Bloch, D. M.
Davies, R. A.

Blair—
Donley, R. R.
St. Louis, Mo.
Howard, C. D.
Nielsen, Morris

Fort Calhoun—
Geesaman, E. S.

MERRICK

Central City—
Benton, J. E.
Brown, A. D.
Enos, A. A.
Fouts, F.
Hutchinson, J. W.

Clarks—
Douglas, R. R.

Palmer—
Racines, J. Y.

COLFAX

Clarkson—
Kavan, W. J.
Kovar, W. R.

Howells—
Myers, H. Dey
Teply, G. L.
Camp Robinson, Ark.

Leigh—
Eby, C. D.
Kuper, H. D.

Schuyler—
Kolouch, F. G.
Koory, S. B.
Myers, H. Dey, Jr.
Jefferson Barracks,
St. Louis, Mo.

BOONE

Albion—
Davis, J. E.
Higgins, J. P.
McRae, F. J.
Smith, J. W. B.

Cedar Rapids—
Reeder, W. J.

St. Edward—
Sullivan, G. W.

BURT

Craig—
Allen, J. G.

Decatur—
Sears, Edgar

Lyons—
Heacock, F. M.
Heilman, R. M.

Oakland—
Benson, H. W.
Tibbels, R. H.

Tekamah—
Lukens, I.
Sauer, L. E.
Wood, M.

PLATTE

Columbus—
Allenburger, C. A.
Anderson, R. C.
Camp Robinson, Ark.
Campbell, C. H.
Evans, James N.
Fitzsimmons Gen.
Hosp., Denver
James, M. C.
Koebbe, E. E.
LeMar, Fred A.
McGowan, P. H.
Martyn, D. T.
Meyer, J. E.
Morrow, F. H.
Neumarker, W. R.
O'Donnell, R. J.

Duncan—
Cyphers, F. B.

Humphrey—
Abts, A. W.

Platte Center—
Bald, A. A.

NANCE

Belgrade—
Bartlett, G. W.

Fullerton—
King, H. E.
Granden, H. W.

Genoa—
Davis, Homer
Newton, R. A.
Williams, C. D.

SIXTH DISTRICT

C. W. Way, Councilor

BUTLER

- Bellwood—
  - Matheny, Z. E.
- Brainard—
  - Kreymborg, O. C.
- David City—
  - Burdick, D. E.
  - Ekeler, Louis J.
  - Gramlich, R. C.
    - Cheyenne, Wyo., 2020 Cary Ave.
  - Miller, Ernest E.
  - Rich, R. G.
  - Ragan, L. E.
- Dwight—
  - Srb, J. J.
- Rising City—
  - Downing, J. H.
  - Longacre, O. E.

SEWARD

- Beaver Crossing—
  - Hille, C. F.
- Milford—
  - DeOgny, P. A.
  - Spieler, F. B.
  - Wertman, H. J.
- Seward—
  - Carr, J. W.
  - Clarke, H. D.
  - Morrow, B. E.
  - Morrow, J.
  - Stanard, John T.
- Staplehurst—
  - Meisenbach, J. E.
- Utica—
  - Kenner, W. C.

SAUNDERS

- Cedar Bluffs—
  - Stuart, A. E.
  - Malloy, E. F.
- Ceresco—
  - Noyes, W. W.
- Morse Bluff—
  - Hubenbecker, J. C.
- Prague—
  - Kasper, J. E.
- Valparaiso—
  - Hervert, J. W.
- Wahoo—
  - Lathrop, M. E.
  - Lauvetz, J. F.
  - Tornholm, Frank
  - Way, Charles
  - Rogers, E. A.
    - Ft. Leonard Wood, Mo.
- Ashland—
  - Baer, B. H.
  - Clark, E. E.
  - Kirkpatrick, C. F.

YORK

- Benedict—
  - Karrer, F. W.
- Bradshaw—
  - Curtis, L. F.
- York—
  - Bell, H. O.
  - Bell, J. S.
  - Greenberg, B. N.
  - Harry, R. E.
  - Karrer, Robt. E.
  - King, D. D.
  - Kilgore, W. S.
  - Neville, J. Wm.
  - Root, B. A.
  - Snyder, F. G.

HAMILTON

- Aurora—
  - Steenburg, D. B.
  - Steenburg, E. A.
  - Steenburg, E. K.
  - Woodard, J. M.
- Gilther—
  - Marvel, P. A.
- Hampton—
  - Troester, O. M.
- Marquette—
  - Weaver, R. L.

POLK

- Osceola—
  - Eklund, H. S.
  - Hill, W. Ray
  - Alliband, Geo. T.
    - 7416 S. Phillips, Chicago, Ill.
- Polk—
  - Williams, J. B.
- Shelby—
  - Brillhart, E. G.
    - Camp Robinson, Ark.
- Stromsburg—
  - Anderson, C. L.
  - Blome, W. N.

SEVENTH DISTRICT

A. A. Conrad, Councilor

SALINE

- Crete—
  - Conrad, A. A.
  - Forney, L. W.
  - Mack, M. A.
    - Camp Robinson, Ark.
  - Stejskal, F. J.
- DeWitt—
  - Runty, H. D.
- Dorchester—
  - Panter, R. C.
- Friend—
  - Hamilton, F. T.
  - Johnson, R. K.
    - 605 Ash St. Conway, Ark.
- Swanton—
  - Simecek, J.
- Tobias—
  - Blattspieler, A. C.
- Wilber—
  - Kirchman, R. C.
  - Travnicek, F. G.

THAYER

- Alexandria—
  - Newell, H. J.
- Bruning—
  - Saylor, H. W.
- Byron—
  - Decker, R. F.
- Chester—
  - Mullikin, D. B.
- Deshler—
  - Reed, Paul A.
- Davenport—
  - Mountford, F. A.
  - Snowden, C. C.
- Hebron—
  - McFarland, W. I.
  - Panter, S. G., Jr.
- Carleton—
  - Douglas, V. D.

NUCKOLLS

- Lawrence—
  - Gray, O. S.
- Nelson—
  - Ingram, J. E.
- Superior—
  - McMahon, C. G.
  - Mason, C. T.
  - Trowbridge, J. A.
  - Webman, A. I.

FILLMORE

- Exeter—
  - Huber, Paul J.
    - Camp Robinson, Ark.
  - Wiggins, W. S.
- Fairmont—
  - Ashby, A. A.
  - Albertson, Miriam A.
    - 320 W. 105th St. New York
- Geneva—
  - Bixby, J.
  - Hickman, J. C.
  - Wegener, Karl F. E.
    - U. S. Vet. Adm., Amarillo, Texas
- Milligan—
  - Smrha, V. V.

JEFFERSON

- Daykin—
  - Humphrey, H. H.
- Fairbury—
  - Ainlay, G. W.
    - Camp Robinson, Ark.
  - Heath, Geo. A.
  - Hughes, D. O.
  - Kantor, D. B.
  - Luce, R. P.
  - Lynch, Geo. M.
  - Lynch, J. H.
  - Shupe, Lester
    - Ft. Leonard Wood, Mo.
  - Taylor, J. S.
- Plymouth—
  - Meisenbach, G. W.

CLAY

- Clay Center—
  - Latta, J. O.
- Edgar—
  - McLeay, H. L.
- Fairfield—
  - Bell, J. R.
- Harvard—
  - Seely, H. H.
    - 1124 C 17th St., Santa Monica, Calif.
- Sutton—
  - Nuss, H. V.
  - Richter, D. A.
  - Welch, J. M.
- Ong—
  - Asa, O. C.

EIGHTH DISTRICT

O. W. French, Councilor

SHERIDAN

- Hay Springs—
  - Wolf, W. K.
    - Ft. Des Moines, Ia.
- Gordon—
  - Anderson, John S.
- Rushville—
  - Hook, R. L.
  - Sullivan, P. J.
    - Camp Roberts, San Miquel, Calif.
  - Swenson, S. A.

BOYD

- Butte—
  - Hawkins, R. C.
- Lynch—
  - Ira, G. B.
  - Kriz, R. E.
- Spencer—
  - Bradley, E. B.

ROCK

- Bassett—
  - Panzer, H. J.

HOLT
Atkinson—
Douglas, W. J.
McKee, N. P.
Chambers—
Gill, James W.
O'Neill—
Brown, J. P.
French, O. W.
Stuart—
Clark, F. J.

BROWN
Ainsworth—
Brady, R. R.
Lear, W. D.
Rasch, A. G.
Long Pine—
Prescott, Kenneth

CHERRY
Valentine—
Compton, A. N.
Johnson, C. A.

NINTH DISTRICT

M. O. Arnold, Councilor

HALL
Grand Island—
Arrasmith, W. J.
Campbell, John F.
Farnsworth, Earle
Gelow, John E.
Higgins, J. E.
Homback, W. H.
Johnson, Amil J.
Johnson, Earle G.
McDermott, K. F.
McGrath, Wilmer D.
McGrath, Wm. M.
Martin, R. D.
Phelan, L. D.
Reilly, John V.
Royer, Howard
Ryder, Frank
Ft. Leonard Wood, Mo.
Synhorst, A. P.
Watson, Donald
Kings City, Calif.
Watson, E. A.
Wengert, H. C.
Woodin, J. G.
Woodruff, R. C.
Wood River—
Molzahn, A. J.

BUFFALO
Elm Creek—
Laughlin, J. W.
Kearney—
Albertson, L. C.
Edwards, C. B.
Fox, C. H.
Gibbons, C. K.
Hansen, H. C.
Hayes, C. B.
Jester, R. F.
Johnson, O. D.
Johnston, R. S.
Smith, Harold V.
Stearns, L. M.
Thompson, R. W.
Wilcox, M. B.
Ravenna—
Dickinson, L. E., Jr.
Ft. Douglas, Utah
Dickinson, L. E., Sr.
Ehlers, O. C.
Shelton—
Lucas, Chas.

CUSTER
Anselmo—
Spivey, C. D.
Ansley—
Higgins, R. P.
Wilcox, C. W.
Arnold—
Burnham, F. A.
Dunn, J. E.
Broken Bow—
Bowman, C. L.
Bowman, J. E.
Carothers, P. H. J.
Erickson, G. T.
Koefoot, Theo.
Landis, H. B.
Penninton, G. E.
Callaway—
Bryson, R. D.
Sargent—
McDaniel, V. S.

DAWSON
Cozad—
Fochtman, L. H.
Sheets, C. H.
Eddyville—
Kile, J. B.
Farnam—
Reeves, A. E.
Gothenburg—
Harvey, H. M.
Pyle, B. W.
Stevenson, E. C.
Lexington—
Anderson, A. W.
Dorwart, H. E.
Dorwart, T. Y.
Olsson, P. Bryant
Rosenberg, F. J.
Wycoff, R. S.

HOOKER
Mullen—
Walker, D. A.

HOWARD
Dannebrog—
Pederson, P. M.
St. Paul—
Arnold, M. O.
Hanisch, E. C.
Wengert, D. B.
Washington, D. C.—
Hynes, W. P.

GREELEY
Greeley—
Brannen, J. L.
Scotia—
Cimfel, A. B.
Sill, Okla.
Wolbach—
Adams, H. C.
Holm, A. H.

VALLEY
North Loup—
Hemphill, W. J.
Ord—
Barta, F. A.
Kruml, J. G.
Jefferson Barracks, St. Louis, Mo.
Miller, C. J.
Round, John N.
Weeks, C. W.
Arcadia—
Langrall, C. D. D. M. S.
Council Bluffs, Ia.

GARFIELD
Burwell—
Cram, Roy S.
Smith, E. J.

SHERMAN
Litchfield—
Rydberg, C. A.
Loup City—
Amick, C. G.
Wanek, A. E.

GRANT
Hyannis—
Howell, W. L.

TENTH DISTRICT

H. S. Andrews, Councilor

ADAMS
Hastings—
Anderson, H. F.
Boren, A. J.
Brown, J. W.
DeBacker, L. J.
Egen, L. F.
Feese, J. P.
Foote, C. M.
Foote, D. B.
Foote, E. C.
Jones, S. J.
Kingsley, D. W.
Kostal, O. A.
Latta, E. J.
McPherson, J. B.
Mace, John L.
Pinney, Geo. L.
Rork, L. W.
Shaw, W. L.
Smith, A. A.
Sumner, Ella P.
Swanson, L. A.
Uridil, J. E.
Kenesaw—
Guildner, C. W.
Nowers, W. E.
Ingleside—
Coats, Edwin A.
Coon, Robert A.
Dickel, H. A.
Davies, D. M.
Geshell, S. W.
Laird, C. R.
Nash, Louis R.
Ft. Stotsenburg, Phillipine Islands
Nielsen, J. C.
Simonsen, Marie

FRANKLIN
Bloomington—
Sparks, M. L.
Franklin—
Bratt, Mary
Nail, F. E.
Rosenberg, D. S.
Ft. Cronkhite, Calif.
Smith, Hal C.
Hildreth—
Baker, F. L.

HARLAN
Alma—
Bartlett, W. C.
Kerr, R. H.
Orleans—
McGrew, K. C.

WEBSTER
Bladen—
Wegmann, W. M.
Blue Hill—
O'Neill, S. H.
Guide Rock—
Reed, H. S.
Red Cloud—
Lewis, E. V.
Lewis, Dorothy Jane
Obert, Francis

RED WILLOW
Indianola—
Mackechnie, W. D.
McCook—
Brimmer, K. W.
Apt. 409, 215 "B" St., N. E., Wash., D. C.
Knox, W. E.
Leininger, E. F.
Morgan, D. H.
Reed, R. R.
Willis, J. M.
Lebanon—
Bartholomew, W. S.

DUNDY
Benkelman—
Morehouse, G. A.
Premer, J. P.
Haigler—
Jones, R. T.

CHASE
Imperial—
Hoffmeister, G. F.
Smith, Fay
Wauneta—
Carlson, C. R.

HITCHCOCK
Palisade—
Fellers, A. B.
Karrer, F. M.
Stratton—
Brown, L. B.
Trenton—
Prest, J. E.

FRONTIER
Curtis—
Magill, Van H.
Eustis—
Rosenau, O. P.
Maywood—
Mills, B. I.

KEARNEY
Minden—
Abbott, C. E.
Abbott, Hodson A.
Andrews, H. S.
Powell, W. H.
Sutton, Bruce B.
Ft. Warren, Wyo.

FURNAS
Cambridge—
Minnick, Clarence
Oxford—
Shank, F. W.

GOSPER
Elwood—
Clark, G. A.

PHELPS
Bertrand—
Clark, G. W.
Holdrege—
Best, Robert
Brewster, F. A.
Brewster, F. W.
McConahay, Harold A.
Matson, Roy M.
Camp Robinson, Ark.
Peterson, Theo. A.
Reeder, Robert C.
Camp Robinson, Ark.
Shreck, H. W.
Camp Robinson, Ark.
Schreck, W. A.

ELEVENTH DISTRICT

J. B. Redfield, Councilor

LINCOLN
Maxwell—
Kennon, C. E.
North Platte
Anderson, Joel
Clarke, H. L.
Dent, G. B.
Dent, T. E.
Fetter, E. W.
Heider, C. F.
Hudgel, L. E.
Camp Grant, Ill.
Kerr, T. J.
Long, Fred
McGraw, Harriett
Millhouse, J. H.
Platt, O. R.
Redfield, J. B.
Selby, C. A.
Stevenson, Ed
Valentine, L. F.
Walker, H. H.
Waltemath, G. F.
Wallace—
Newman, J. C.

LOGAN
Stapleton—
Carr, E. F.

DEUEL
Big Springs—
Smith, C. H.
Smith, N. R.
Chappell—
Colman, A. C.
Harris, S. O.

GARDEN
Lewellen—
Morris, D. F.
Oshkosh—
Seng, W. G.

KEITH
Ogallala—
Harvey, E. A.
Murdock, E. Paul
Vandiver, H. A.
Weyer, S. M.

PERKINS
Grant—
Bell, F. M.

TWELFTH DISTRICT

George W. Pugsley, Councilor

SCOTTS BLUFF
Gering—
Gentry, W. Max
Gentry, W. J.
Harvey, W. C.
Shike, W. E.
Lyman—
Wood, L. L.
Minatare—
Karrer, R. W.
Mitchell—
Ohme, Kenneth
Watson, C. R.
Morrill—
Asa, A. L.
Prentice, O. D.
Scottsbluff—
Baker, Ellis E.
Baker, Paul Q.
Campbell, Louis S.
Camp Murray, Wash.
Cooper, A. L.
Dunham, L. H.
Franklin, W. S.
Griggs, E. E.
Hanna, Joe T.
Ft. Crook, Nebr.
Herhahn, Frank T.
Hodnott, W. P.
Lovett, Ivan C.
Malott, R. J.
Rasmusson, M. H.
Riddell, Ted E.
Rosenau, John A.
Schrock, J. B.
Stoops, J. N.
Zierott, L. L.

BOX BUTTE
Alliance—
Broz, J. S.
Burnham, A. G.
Copsey, H. A.
Hand, Geo. J.
Johnston, G. F.
Kennedy, J. F.
Ft. Leonard Wood, Mo.
Kuncl, Joseph K.
Ft. Ord, Calif.
Seng, O. L.
Slagle, C. E.
Sucgang, F. P.
Whitehead, E. I.

DAWES
Chadron—
Courshon, A. J.
DeFlon, Eric G.
Griot, A. J.
Hoevet, L. H.
Pierce, C. M.
Crawford—
Ivins, R. L.

CHEYENNE
Dalton—
Pankau, J. B.
Sidney—
Bitner, C. U.
Cook, Hull A.
Dorwart, Clinton B.
Grimm, B. H.
Ft. Riley, Kan.
Roche, R. E.
Lodgepole—
Miller, J. C.

KIMBALL
Kimball—
Flett, Davis
Lipp, Frank E.
Ft. Des Moines, Ia.
Manganaro, C. J.
Miller, A. L.
Lincoln, Nebr.
Rolph, E. L.

MORRILL
Bayard—
Doher, T. L.
Pugsley, G. W., Jr.
Ft. Custer, Mich.
Pugsley, G. W., Sr.
Bridgeport—
Blackstone, H. A.
Drasky, B. W.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The regular meeting of the Omaha-Douglas County Medical Society was held on Tuesday, November 11, 1941, Medical Arts Auditorium, and called to order by President Clarke at 8 p. m.

It was moved and seconded that the reading of the minutes of the regular meeting of October 14, and the Council meeting of October 16, be dispensed with inasmuch as they were published in the November Bulletin.

The application of Dr. John J. Gleeson was voted upon, and it was moved and seconded that the doctor be elected to membership.

"Army and Navy Night" was chosen by the Program Committee as being appropriate for the Armistice Day Program. It was opened by a brief talk by Lt. Col. Neill. J. Everitt on Army Medicine, followed by two interesting sound films; one showing various types of armored combat vehicles and the other, parachute training. Commander J. J. Freymann, representing the Navy, discussed "The Medical Department of the Navy." Two sound fiims were shown; one "The World Today," depicting a day in the life of the young men serving in the navy, and the other was a film on aviation in the navy.

Meeting adjourned 9:45 p. m.

On November 14th members of the **Lancaster County Medical Society** and guests, enjoyed a special meeting sponsored by the Nebraska State Medical Association Fracture Committee, with 83 members present.

Meeting was called to order by the president, Dr. J. M. Woodward, who turned the meeting over to Dr. J. E. M. Thomson, chairman of the committee.

In the absence of Dr. Schrock, Dr. Herman F. Johnson, of Omaha, presented the first paper on "Fractures and Dislocations of the Astragalus and Their Management." This was followed by a short film showing the end results of thirty cases handled by the Schrock, Johnson, and Waters Clinic of Omaha. The treatment of these fractures was usually surgical with pinning or some times the entire removal of the astragalus. The results were exceptionally good.

Dr. Roger Anderson, of Seattle, Washington, who had been in the east and two days previously presented a paper at Rochester, Minnesota, spoke on "Compound Fractures and Their Care." By the use of movies, he illustrated his management of simple and compound fractures, primarily of the long bones. In general, his technique was to insert double-anchor pins as near a joint area and as far from the fracture site as possible. In many instances the points of these pins were fixed in a cast and he got his patients ambulatory as early as possible. This was an extremely interesting and educational paper for those who heard it. Discussion followed by Drs. H. W. Orr, J. E. M. Thomson, C. H. Arnold, and H. F. Johnson.

Forty-five were present for the dinner preceding the meeting, honoring the guest speakers.

Meeting adjourned 9:50 p. m.

Members of the **Lancaster County Medical Society** and Lincoln Hospital Staff members, held a clinical-pathological conference November 4, 1941, with forty-one members present. Dr. J. M. Woodward in the chair.

The staff of the Nebraska Orthopedic Hospital conducted the conference. Two cases were presented by Drs. H. W. Orr and Fritz Teal, the first a case of atrophy, and the second a case of a typical poliomyelitis with cerebral symptoms. Dr. E. W. Hancock presented the autopsy report on both cases and Dr. J. Marshall Neely gave the pathological findings.

A short business meeting was held following the conference, at which time a discussion of delinquent members was held. The matter was tabled for the present. An application for membership of Dr. Horace V. Munger was read. The transfer of Dr. James P. Sharon from the Polk County Iowa Medical Society to our society was announced.

Meeting adjourned 9:00 p. m.

The **Adams County Medical Society** held their regular monthly meeting on the evening of December 3, 1941, at the Hastings State Hospital, the meeting being called to order by President Dr. Egen. The minutes of the last meeting were read and approved.

The application for membership by Dr. Creighton Uridil and Dr. A. E. Harrington, having been approved by the Board of Censors, were placed before the society for consideration. These were approved and accepted.

Following this was the election of officers for 1942: Dr. E. C. Foote, president; Dr. E. J. Latta, vice president; Dr. Marie N. Simonsen, secretary-treasurer. In each case the secretary was instructed to cast a unanimous ballot for election.

Following the election of officers was the scientific program. Dr. Covey of Lincoln, the guest speaker, gave a very interesting paper on "Vitamin Deficiencies and Anemias." Lantern slides and x-ray films were shown by Dr. Marshall Neely of Lincoln. A movie film on the vitamin deficiencies from the Squibb company was shown by courtesy of Wm. Brook.

Five-County Medical Society (Dixon, Dakota, Cedar, Wayne and Thurston), met in Wayne, Nebraska, December 11, 1941. Dinner was served to twenty-six members, their wives, and guests.

Dr. R. P. Carroll of Laurel, was in charge of the program and Mrs. Carroll entertained the ladies.

Dr. D. D. King of York, president-elect of the Nebraska State Medical Association, addressed the members, at which time he discussed matters pertaining to the State Association.

Mr. M. C. Smith, Lincoln, executive secretary of the Nebraska State Medical Association, gave a very interesting talk on the work done by his office during the past year.

Following the talks by the above mentioned, the business meeting was held, being called to order by President Dewey.

It was moved and seconded that the secretary investigate the possibility of designating a regular set meeting night to be on a Thursday for the society so that it would not interfere with any other medical meetings. Carried.

The following officers were elected to serve for the year 1942 for the Five-County Medical Society and its component Societies, the Tri-County Medical Society, the Dixon County Medical Society, and the Cedar County Medical Society.

Officers of the Five-County Medical Society: President, R. P. Carroll, M. D. Laurel; vice president, L. J. Kilian, M. D., Wakefield; secretary-treasurer, J. D. Bradley, M. D., Pender; censor for a three-year term, G. E. Peters, M. D., Randolph.

Officers of the Tri-County Medical Society: President, Walter Benthack, M. D. Wayne; vice president, L. J. Kilian, M. D., Wakefield; secretary-treasurer, W. R. Blume, M. D., South Sioux City; delegate to the state association, J. D. Bradley, M. D., Pender; alternate, Walter Benthack, M. D., Wayne.

Officers of the Dixon County Medical Society: President, W. Y. Jones, M. D., Ponca; vice president, C. B. Coe, M. D., Wakefield; secretary-treasurer, M. Coe, M. D., Wakefield; delegate to the state association, J. C. Kildebeck, M. D., Emerson; alternate, M. Coe, M. D., Wakefield.

Officers of the Cedar County Medical Society: President, F. G. Dewey, M. D., Coleridge; vice president, F. P. Dorsey, Jr., M. D., Hartington; secretary-treasurer, R. P. Carroll, M. D., Laurel; delegate to the state association, G. E. Peters, M. D., Randolph; alternate, R. P. Carroll, M. D., Laurel.

Moved and seconded that we adjourn. Carried.

The Madison Six County Medical Society met November 18, 1941 in the Hotel Norfolk. Dinner at 7:30. The scientific program was as follows: "Melancholia," Dr. E. J. Delehanty of the medical staff of the Norfolk State Hospital; "Electroencephalography as a Diagnostic and Prognostic Aid in Neurology" (illustrated with motion pictures), Dr. A. E. Bennett, Omaha, Nebr.; "The Parkonsonian Syndrome of the Acute Encephalitis," Dr. W. C. Brinegar, Assistant Superintendent and Clinical Director of the Norfolk State Hospital. Committees in charge, staff of Norfolk State Hospital.

The Sixth Councilor District met December 15th in Hampton. The scientific program consisted of two papers: "Surgical Management of Gallbladder Diseases," Clayton Andrews, M. D., Lincoln, and "Radiological Aspects of Gallbladder Disease" (Slides), J. M. Neeley, M. D., Lincoln.

The Tri County Medical Society met in Dodge. Dinner at 6:30. The scientific program consisted of a paper by Dr. A. J. Merrick on "Electrocardiography." Dr. Sven Isacson of Omaha, presented a comprehensive discussion on "Hematology."

Tri County Medical Society met at Stratton, November 25. The program follows: Dr. F. Lowell Dunn of Omaha, on "A New Approach to Physical Diagnosis of Chest Sounds." "Medical Problems," Mr. M. C. Smith, executive secretary of the Nebraska State Medical Association.

The Southwestern Nebraska Medical Society met at the Keystone Hotel in McCook, November 19th. Twenty-three members attended. The scientific program consisted of:

1. "The Treatment of Fracture of the Vertebrae," by Dr. Chester Waters, Jr., of Omaha.
2. "The Commoner Fractures of the Knee Joint," by Dr. J. E. M. Thompson of Lincoln.
3. "The Medical Practice Act," by Mr. M. C. Smith, executive secretary of the Nebraska State Medical Association.

The Cass County Medical Society met in Plattsmouth, November 6, 1941. The discussion centered around the health phases of defense. Dr. P. Sharon of the State Health Department, and Dr. Kling of the Health Unit, led the discussion.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. S. A. Swenson, formerly of Oakland, has located in Rushville.

Dr. A. F. Tyler of Omaha, is improving in the Immanuel Hospital.

Dr. George E. Lewis of Lincoln, addressed the Y. M. C. A. on December 3.

Dr. R. F. Jester addressed the college pre-medic club at Kearney in December.

Dr. L. S. Johnson, formerly of Bloomfield, has joined the Norfolk State Hospital Staff.

Dr. and Mrs. E. J. Mitchell of Scottsbluff, spent the latter part of November in California.

Dr. W. K. Clark of Valentine, has succeeded Dr. Crumm in the government service at Wamblee, South Dakota.

Dr. Frank Herhahn of Scottsbluff, attended a two-weeks post-graduate course at Cook County Hospital in Chicago.

Dr. Olga Stastny of Omaha, was the principal speaker at the A. A. U. W. in Fremont the latter part of November.

Dr. George Covey of Lincoln addressed a meeting of the Nebraska Society of Medical Technologists in Omaha, December 6.

At the recent meeting of the American College of Surgeons in Boston, Dr. O. R. Platte of North Platte, was elected to fellowship.

Dr. Howard Royer of Grand Island, attended the annual meeting of the Southern Medical Association in St. Louis in November.

Dr. and Mrs. Alfred J. Brown of Omaha were in Minnesota early in December. Dr. Brown attended the Western Surgical Association meeting.

Dr. Robert D. Schrock was elected president of the Omaha Mid-West Clinical Society at its annual meeting in December. He succeeds Dr. John W. Duncan.

Captain Carroll D. Evans formerly of Columbus, who served as medical advisor to state draft headquarters, resigned from his post to enter practice at Lyman, Nebraska.

Dr. B. F. Lorance of Auburn celebrated his 83rd birthday December 6. He was honored with a surprise party and dinner by members of the Nemaha County Medical Society who assembled at his house while the doctor was away on a call prearranged by some of his colleagues. Dr. Lorance is the oldest practicing physician in the County. In addition to carrying on his own private work he is serving as county physician.

Doctors in the Army

Dr. Lester Shupe of Fairbury, was recently promoted to rank of Captain. He is at Fort Leonard Wood, Missouri.

Dr. Clarence Strand of Lincoln, is lieutenant located at Manila.

Dr. J. J. Snipes of Lincoln, is major stationed at Fort Custer.

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R. H. Whitham, 1943	Lincoln
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Maurice E. Grier, 1945	Omaha
R. B. Adams	Lincoln

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Library, Necrology and Records

O. V. Calhoun, 1943, Ch.	Lincoln
J. C. Waddell, 1942	Beatrice
C. W. M. Poynter, 1944	Omaha

Medico-Legal Advice

R. W. Fouts, 1943, Ch.	Omaha
O. R. Platt, 1942	North Platte
R. B. Adams	Lincoln

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J. Dewey Bisgard, Ch.	Omaha
Lowell Dunn	Omaha
J. M. Woodward	Lincoln

Journal and Publications

B. F. Bailey, Ch., 1941	Lincoln
W. H. Heine, 1942	Fremont
A. F. Tyler, 1943	Omaha
R. B. Adams, Sec. (ex-of.)	Lincoln

F. S. A.

E. S. Wegner, Ch.	Lincoln
E. E. Koebbe	Columbus
R. T. Van Metre	Fremont

SCIENTIFIC

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W. J. Arrasmith, 1943	G. Island
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Fritz Teal	Lincoln

Maternal and Child Health

H. S. Morgan, Ch.	Lincoln
Clyde Moore	Omaha
G. E. Peters	Randolph

Vascular and Cardiac Diseases

F. W. Niehaus, Ch.	Omaha
John C. Thompson	Lincoln
Lucien Stark	Norfolk

Public Health

J. C. Nielson, Ch.	Ingleside
G. E. Charlton	Norfolk
A. A. Conrad	Crete

Tuberculosis

John F. Allen, Ch.	Omaha
E. W. Hancock	Lincoln
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Venereal Diseases

A. D. Munger, Ch.	Lincoln
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Prevention and Amelioration of Deafness

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Cancer

James F. Kelly, Ch.	Omaha
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BOOKS RECEIVED

Manual of Clinical Chemistry, by Miriam Reiner, M. Sc., Assistant Chemist to The Mount Sinai Hospital, New York, with introduction by Harry Sobotka, Ph. D., Chemist to The Mount Sinai Hospital, New York. 296 pages including index, with 18 illustrations. Interscience Publishers, Inc., New York, 1941. Price $3.00.

Synopsis of Allergy, by Harry L. Alexander, A. B., M. D. Professor of Clinical Medicine, Washington University School of Medicine, St. Louis; Editor of The Journal of Allergy. 246 pages including references and index, with 22 illustrations. The C. V. Mosby Company, St. Louis. 1941. Price $3.00.

Immunology, by Noebel Pierce Sherwood, Ph. D.; M. D., F. A. C. P. Professor of Bacteriology, University of Kansas, and Pathologist to the Lawrence Memorial Hospital, Lawrence, Kansas. Second Edition, 639 pages including index, with 27 illustrations and 7 color plates. The C. V. Mosby Company, St. Louis. 1941. Price $6.50.

Toxemias of Pregnancy, by William J. Dieckmann, M. D. Associate Professor of Obstetrics and Gynecology, The University of Chicago; Attending Obstetrician, The Chicago Lying-in Hospital and Dispensary; Attending Gynecologist, Albert Meritt Billings Memorial Hospital of the University of Chicago; Associate Editor of the American Journal of Obstetrics and Gynecology; Co-chairman of the Conference on Eclampsia, United States Department of Labor, Children's Bureau, 1941. 521 pages including index, with 50 text illustrations and 3 color plates. The C. V. Mosby Company, St. Louis, 1941. Price $7.50.

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Medical Division of Civilian Defense Office Issues Bulletin No. 2

The thoroughness with which the Medical Division of the Office of Civilian Defense is preparing to meet civilian emergency needs associated with disasters is shown in the Division's Bulletin No. 2, published in the November 22 issue of The Journal of the American Medical Association. This bulletin concerns itself with the equipment and operation of Emergency Medical Field Units.

The bulletin explains that an emergency medical field unit is "a group of physicians, nurses, orderlies and volunteer nurses' aides organized, equipped and trained for field casualty service in the event of a disaster."

This unit operates from what is known as a casualty station and is so organized and equipped that it can be instantly subdivided into squads and teams for service at the actual site of disaster.

The recommended equipment listed in the bulletin is uniform and conforms as far as possible with that of the Medical Department of the U. S. Army. In addition to listing the minimum medical and surgical equipment for the first aid post, which is the advance unit of the casualty station, the equipment for the latter also is enumerated. For the first aid post the working supply for one physician's team includes the instruments essential for minor surgery, drugs, dressings and bandages and suture material. The equipment for a casualty station includes bulky articles such as splints, which could not be included in the equipment of the first aid post without impairing its mobility and other items, such as matches, electric lanterns and gasoline stoves, as well as the drugs, dressings and bandages required for its efficient operation.

The "Sulfa" Drugs

In 1937 sulfanilamide became available generally and proved to be extremely useful in the treatment of infections due to B. hemolytic streptococci and meningococci. In addition, the drug soon was being employed in urinary tract infections, trachoma, chancroid, lymphogranuloma venereum, and certain cases of gas gangrene, and it demonstrated some benefit in gonorrhea, undulant fever, and actinomycosis. Approximately two years later sulfapyridine was being widely used in the treatment of pneumococcal infections and was found to be more effective than sulfanilamide against gonococci. After only another year sulfathiazole begun to replace sulfapyridine because it was as effective against pneumococci and gonococci, more effective against staphylococci, and occasioned fewer reactions. In urinary tract infections sulfathiazole was superior to sulfanilamide in most cases. Now sulfadiazine is being introduced and it has the advantage of a lower index of toxicity, which makes possible the maintenance of high blood levels.

This group of drugs has become exceedingly widely employed. Soon there will be only a small proportion of the general population which has not received one of them as treatment of some variety of infection (South. M. J., 34:1214, 1941). It behooves the physician to choose carefully the most specific and least toxic one for his case. A wide variety of dosage forms have been made available by Eli Lilly and Company.

Annual Assembly, Hotel Fontenelle, Omaha, May 4 to 7, 1942

THE NEBRASKA STATE MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. 27 Norfolk, Nebraska, February, 1942 No. 2

Practical Considerations in Present Day Chemotherapy*

ALEX E. BROWN, M. D. and WALLACE E. HERRELL, M. D.
Division of Medicine, Mayo Clinic
Rochester, Minnesota

The sulfonamide compounds without question constitute the greatest contribution ever made to chemotherapy, and they have attained sufficient prominence so that the term "chemotherapy" today generally implies their use. Modern methods of experimental and clinical research have permitted such rapid development in this field that careful appraisal of available drugs is necessary if they are to be used to best advantage. It is obvious that this subject is now so large that it is possible at this time to consider only a few factors which in our experience have seemed to improve our methods of treatment.

SULFONAMIDE DRUGS AVAILABLE AND FACTORS INFLUENCING SELECTION FOR USE

Sulfonamide drugs which are available at present are neoprontosil, sulfanilamide, sulfapyridine, sulfathiazole and the sodium salt of sulfapyridine. Sodium sulfathiazole should be available soon for general use. In addition, accumulating experience seems to indicate that 2-sulfamidopyrimidine (sulfadiazine) and sulfanilylguanidine eventually will merit inclusion into this group of available drugs (Table 1).

A simple approach to the rational use of all of these drugs is afforded in Table 1 which depicts basic principles in determining a satisfactory sulfonamide drug. From this table it can be seen that sulfanilamide behaves satisfactorily in the body from the standpoint of good absorption, excretion and low acetylation; the last is important because the acetyl derivatives are therapeutically inactive. Sulfanilamide also diffuses well into body tissues and fluids. It is, however, moderately toxic and while bacteriostatic for hemolytic streptococci is relatively ineffective for pneumococci and staphylococci. Sulfapyridine is absorbed irregularly and the amount absorbed varies not only among individuals but may vary daily in the same case. From 15 to 75 per cent (average 30 per cent) of sulfapyridine forms an insoluble acetyl derivative which is eliminated with difficulty in the urine and tends to produce renal complications. Because of these two factors, the irregular absorption and the high acetylation, it is frequently difficult to obtain high concentrations of free sulfapyridine in the blood by oral treatment alone. Sulfapyridine diffuses well into body tissues and fluids but is more toxic than sulfanilamide and frequently produces nausea and vomiting. It has marked bacteriostatic effect on hemolytic streptococci and pneumococci but is not as effective as sulfathiazole for staphylococci.

Sulfathiazole is absorbed rapidly but has the disadvantage of being excreted so rapidly that at times it may be impossible to obtain a high concentration of free drug in the blood even when the sodium salt is used intravenously to supplement oral treatment. Only 0 to 30 per cent (average 12 per cent) of sulfathiazole is acetylated, but this acetylated derivative is highly insoluble and may produce renal complications. Sulfathiazole has the disadvantage of diffusing poorly into cerebrospinal fluid and, therefore, it is decidedly inferior to sulfapyridine in treatment of infections of the meninges, brain or mastoid. It possesses an advantage over sulfapyridine because it is less toxic and produces nausea and vomiting less frequently. It may be less effective than sulfapyridine in treatment of infections caused by hemolytic streptococci but appears equally effective for pneumococcic infections and more effective for staphylococcal infections.

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*Read before the meeting of the Nebraska State Medical Association, Lincoln, Nebraska, May 6, 1941.

Neoprontosil acts similarly to sulfanilamide and although it is less toxic than the latter drug, it also has a lessened therapeutic effect which makes it of secondary value in most infections. Sulfapyrimidine (sulfadiazine) is still being tested experimentally, but accumulating evidence by a few(1, 2, 3, 6, 9, 10) observers indicates that it eventually will become a valuable addition to our available sulfamido drugs. It, therefore, merits brief mention at this time. It is well absorbed and is excreted more slowly than the other drugs considered. It is acetylated to even less degree than sulfathiazole and its acetyl derivative possesses the advantage of being readily excreted in the urine and, therefore, has little tendency to produce renal complications. All of these properties permit sulfadiazine to accumulate in the blood in considerably higher concentrations dose for dose than do the other sulfonamide compounds and make it easier to maintain high concentrations of this drug in the blood. Sulfadiazine also seems to diffuse readily into the cerebrospinal fluid and possesses an advantage over sulfathiazole in this respect.

TABLE 1
FACTORS DETERMINING THE SELECTION OF DRUGS

	Drugs				
	Available			Experimental	
Influencing factors	Sulfanilamide*	Sulfapyridine	Sulfathiazole	Sulfadiazene	Sulfanilylguanidine
Absorption	Good	Fair (irregular)	Good (rapid)	Good	Poor
Excretion	Good	Good	Good (rapid)	Good (slow)	Fair
Acetylation	Slight	Great (15-75%; cpd.—insoluble)	Slight (0-30%; cpd.—insoluble)	Slight (cpd.—soluble)	Moderate
Diffusion (tissue and fluid)	Good	Good	Poor into C. S. F.	Good	Poor into C. S. F.
Toxicity	Moderate	Moderate (+)	Moderate (—)	Mild	Mild
Bacteriostatic effect	Monovalent: hemolytic streptococci	Polyvalent: hemolytic streptococci, pneumococci, staphylococci			Intestinal bacterial infections

*Azosulfamide (neoprontosil) has the same characteristics as sulfanilamide but to less degree.

The toxicity of sulfadiazine appears to be much lower than that of the other compounds and it seems to have little tendency to produce nausea and vomiting. We have had very little personal experience with the drug but experiments on animals and clinical opinions of others indicate that it seems to be effective for the same organisms as those susceptible to sulfapyridine and sulfathiazole.

Sulfanilylguanidine,(6) (8) also an experimental drug of promise, appears from Marshall's(8) work to be poorly absorbed from the intestinal tract, but it is quite soluble and effective locally in the bowel where he has demonstrated that it is free from acetylation. Our experience with this drug has been limited, but Marshall's studies indicate that it is effective largely for bacterial infections of the intestine and that it may be of value as a prophylactic agent in surgery of the colon. It has been used at the Mayo Clinic in about forty cases of chronic ulcerative colitis and in some types of this disease has given very satisfactory results (Table 2.)

Sulfanilamide to date remains the drug of choice in infections caused by hemolytic streptococci. This applies to such conditions as bacteremia, meningitis, pneumonia, cellulitis, peritonitis, otitis media, tonsillitis, and so forth. It is also preferable for both general and local use in infections produced by meningococci, clostridium perfringens, green producing streptococci and for prophylaxis of infections of unknown etiology. Either sulfapyridine or sulfathiazole may be used for infections caused by Klebsiella pneumoniae although they do not have nearly so marked an effect on this organism as on Diplococcus pneumoniae. Either also may be used for treatment of infections in which the causative organism is unknown. Sulfathiazole, however, has some advantage over sulfapyridine for infections in which the causative agent is unknown and in pneumococcic infections because of its lower toxicity and its lessened tendency to produce nausea and emesis. It appears definitely more effective than sulfapyridine when the staphylococcus aureus, or Neisseria gonorrhoeae is the causative organism. However, sulfapyridine takes precedence over sulfathiazole in infections involving nervous tissue as sulfathiazole penetrates poorly into the cerebrospinal fluid. Sulfathiazole in our experience has been the most effective sulfonamide drug for the treatment of gonorrhea and most pathogenic organisms producing infections in the urinary tract.

The use of the sulfonamide drugs for prophylaxis seems well grounded, and in surgical or traumatic wounds when infection seems likely to occur they should be used internally in moderate dosage or locally, as described in a following paragraph. When operations are contemplated, treatment should be started a day prior to operation when possible.

In addition to the foregoing group of infections there is a second group of fairly common infections in which varying results from treatment with sulfonamide drugs have been reported and in which the drug may be of some value. These are chronic ulcerative colitis, brucellosis, pemphigus, lupus erythematosus, actinomycosis, and infections caused by bacteroides. There is also a third group in which general opinion has conceded the drugs to be of no value. These consist of chronic infectious arthritis, acute rheumatic fever, typhoid fever, influenza and the common cold, virus diseases and tularemia.

LOCAL APPLICATION

Aside from the internal use of sulfonamide drugs for the previously cited infections, we have used sulfanilamide and occasionally sulfathiazole locally for prophylaxis and for treatment of infections. Lesions treated have consisted of badly infected scalp wounds, surgical or traumatic wounds of the thorax and pericardium, abdominal wounds, sinuses of soft tissue and various types of orthopedic wounds. We have placed 30 to 90 grains (2 to 6 gm.) of sulfanilamide powder in the abdominal cavity in the course of operations on infected organs and have used varying amounts of powder in other lesions. The powder should be well granulated and distributed to avoid caking. We also have formed suspensions of sulfanilamide by adding 30 grains (2 gm.) of powder to 100 c.c. of 0.8 per cent of sulfanilamide in physiologic saline solution and have used this suspension frequently for irrigation. For skin lesions we have used an ointment with a simple base containing 10 to 25 per cent of sulfathiazole. The results of this treatment have seemed encouraging, although a large series of cases will be necessary before statistical studies will be significant.

DOSAGE

In considering the important factor of dosage it is necessary to bear in mind that overtreatment as well as undertreatment may lead to disastrous results. It should be pointed out also that while patients who have marked variations in severity of infection may be treated successfully without the aid of laboratory data, nevertheless, it is true that the best results in severe infections, such as bacteremia and meningitis, will occur when accurate control is kept of high concentrations of drug in the blood (Table 2).

TABLE 2
ABBREVIATED CHART OF DRUG DOSAGE
Sulfanilamide—Sulfapyridine—Sulfathiazole

Type and degree of infection	Doses of Drug in Grains		Concentration of drug, mg. per 100 c.c. of blood
	Initial	Daily	
Mild			
Urinary tract		30-40 (3 doses)	0-1
Moderate			
Tonsillitis for prophylaxis	30	90 (6 doses)	2-5
Moderate (+)			
Pneumonia Cellulitis	60	90 (6 doses)	3-8
Severe			
Bacteremia Meningitis Cellulitis	70-90	90-130 (6 doses)	16-18 8-10*

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*Sulfathiazole.

In treating infections of mild degree and infections of the urinary tract in adults, small doses of any of the drugs such as 30 to 40 grains (2 to 2.6 gm.) daily in three or four divided doses, which produce low concentrations of drug in the blood, will usually give satisfactory results. In infections of moderate severity, such as tonsillitis, an initial dose of 30 grains (2 gm.) of drug followed by

15 grains (1 gm.) every four hours is usually sufficient. If the infection is of greater severity, as in pneumonia, the initial dose should be 60 grains (4 gm.) of sulfapyridine or sulfathiazole, and the maintenance dose as previously cited. These doses frequently will produce concentrations of 4 to 6 mg. of sulfapyridine or 2 to 5 mg. of sulfathiazole per 100 cc. of blood. In infections of the preceding type, there is frequently a tendency to give more drug than is necessary and this procedure may lead to unnecessary discomfort for the patient.

Although we realize that low and moderate concentrations of drug in blood frequently will give satisfactory results in infections such as pneumonia, we believe that severe infections, such as bacteremia and meningitis, constitute a different problem and that it is advisable to obtain a high concentration of drug in the blood as soon as possible because increased numbers of organisms and increased destruction of tissue definitely inhibit bacteriostasis. These high concentrations of drug in the blood (16 to 18 mg. per 100 c.c. of sulfanilamide and sulfapyridine, 8 to 10 mg. per 100 c.c. of sulfathiazole) should be maintained until full clinical recovery has taken place, and it has been our experience that any tendency to decrease these concentrations before recovery has taken place usually will lead to death or prolonged morbidity with complications. These high concentrations of drug in the blood can usually be obtained by giving an initial dose of 70 to 90 grains (4.65 to 6 gm.) of drug and a maintenance dose of 15 to 20 grains (1 to 1.3 gm.) of drug every four hours.

In using sulfapyridine or sulfathiazole it is frequently necessary to supplement the oral use of drug by giving supplementary intravenous injections of the sodium salt in 5 per cent solution in distilled water once or twice daily. In severe infections, we also usually have given an initial dose of sulfapyridine or sulfathiazole intravenously as the sodium salt and have simultaneously started oral treatment. It has been our habit in severe infections to determine the concentrations of drug in the blood in the morning and evening and then to decide on the dose of the sodium salt necessary to maintain the desired concentration of drug in the blood. We have not given more than 75 grains (5 gm.) of sodium salt as a single intravenous dose and have found that the scale as proposed by Marshall and Long(7), of 0.06 gm. of drug per kilogram of body weight usually will increase by 6 to 8 mg. the concentration of drug per 100 c.c. of blood. Although some physicians have successfully given the sodium salts of sulfapyridine and sulfathiazole subcutaneously, we have preferred in general to use them intravenously but have continued to give sulfanilamide subcutaneously in an 0.8 per cent solution in physiologic saline when necessary.

An analysis of the cases of severe infections(4), such as bacteremia produced by hemolytic streptococci and staphylococci, encountered at the Mayo Clinic tends to substantiate our ideas relative to the necessity of high concentrations of drug in the blood in these infections. It is of interest that as our ideas with regard to this type of procedure have become more fixed, the results from sulfonamide therapy have improved. Thus, whereas only 21 percent of the patients who had bacteremia caused by hemolytic streptococci, recovered before sulfonamide therapy was employed, in 1937 and 1938, after this treatment was instituted, 59 per cent recovered, and in 1939, 71 per cent recovered. In addition, when all cases in which treatment was considered adequate from the standpoint of high concentrations of drug in the blood were analyzed the recovery rate was as high as 77 per cent. Likewise, as we gradually realized the value of this same type of treatment in staphylococcic bacteremia, the recovery rate rose from 23 per cent before treatment with the sulfonamide drugs, to 50 percent with sulfonamide therapy in 1937 and 1938, and to 62 per cent in 1939; the recovery rate in the entire group considered on a basis of adequate treatment with high concentrations of drug in the blood reached 75 per cent. Thus it can be seen that as we realized the value of high concentrations of the drug in the blood, our results from this type of treatment improved proportionately. It should also be noted that the final recovery rate in these infections was 75 per cent which is approximately the percentile figure occupied by the mortality rate in these infections previously.

In general in severe infections when estimations of the concentration of the drug in the blood cannot be obtained, dosage must be determined from the clinical response on the one hand and manifestations of toxicity on the other.

SUPPLEMENTARY DATA ON TREATMENT AND TOXIC MANIFESTATIONS

Successful sulfonamide treatment is always dependent on intelligent surgical cooperation, and when localized lesions exist which permit drainage it usually is impossible to obtain a cure unless surgical eradication of an existing focus is carried out. Patients who are severely ill from sepsis usually will be found suffering from a depletion of vitamins. Vitamins, therefore, should be supplied to them orally or parenterally. Recently we have instituted the procedure of giving vitamins in our solutions of glucose, and in each 1,000 c.c. of 5 per cent solution of glucose, we have placed 2 mg. of thiamine chloride, 2 mg. of riboflavin, and 10 mg. of nicotinamide. Riboflavin which is not stored in the body is utilized in glucose metabolism. Higgins has shown that nicotinamide will prevent the decomposition of riboflavin in solution.

It is important that treatment of otitis media and mastoiditis should be continued for eight to ten days after apparent recovery has taken place. In bacteremia and meningitis, treatment should continue for at least twenty-one days after apparent recovery in order to prevent recurrences. This is particularly necessary when the affecting organism is a staphylococcus. Additional aid to satisfactory diagnosis of infections and successful treatment with sulfonamide compounds may be obtained from a more satisfactory method of making blood cultures. The rapid growth method of Janeway(5) has proved helpful. We are now adding 5 mg. of para-aminobenzoic acid per 100 c.c. to the culture medium when the material for culture has been obtained from patients receiving a sulfonamide drug. The para-aminobenzoic acid exerts an inhibitory effect on the bacteriostatic action of the sulfonamide compound in the culture.

It seems likely that sodium bicarbonate has a favorable effect in preventing a lowering of the carbon dioxide combining power of the blood during treatment with sulfanilamide, and it may also have a favorable effect on treatment with sulfathiazole by increasing absorption of the drug.

The various toxic manifestations of the sulfonamide drugs are too well known to bear general repetition at this time, but some points are sufficiently important to warrant special emphasis. Patients undergoing treatment with the sulfonamide drugs preferably should have daily blood counts, and daily urinalysis whenever sulfapyridine or sulfathiazole is used. This is particularly advisable when large doses of drug are used or treatment is continued for several days. No patient, however, should be deprived of treatment with sulfonamide drugs because laboratory facilities are lacking, for careful daily observation will serve to detect most toxic manifestations of the drug. Drug fever, rashes, anemia, jaundice and cyanosis all can be detected by observation and questioning will reveal evidence of abnormal malaise, headache, vertigo, nausea or anorexia. Simple measurement of intake and output of fluid will determine quickly the onset of anuria; and gross inspection of urine often will allow a diagnosis of hematuria. Leukopenia and granulocytopenia alone are complications which cannot be detected without laboratory data. Although leukopenia may occur at any time, it is unusual to encounter it early or to have granulocytopenia occur earlier than the seventh to tenth day of treatment. Acute hemolytic anemia is one complication which usually occurs early and although cyanosis also may occur early, it is of little importance as an indicator of danger.

Fever and rashes from the drug usually occur after seven to ten days of treatment. Fever deserves special mention, for it presents a pitfall to trap the unwary. Low grade, moderate or septic types of fever with chills may occur early or late. A rise of temperature after several days of treatment with sulfonamide drugs when there has been a previous decline in fever and detectable improvement in the pathologic process should suggest the possibility of drug fever. This is particularly true when other evidences of toxicity occur and when evidence of sepsis seems lacking. Skin rashes, except in emergency treatment, constitute evidence for discontinuing treatment as they may terminate in fatal exfoliative dermatitis.

When symptoms, such as headache or vertigo, persist to a marked degree or recur with retrial of the drug, it is well to be cautious about continued treatment, for these symptoms may precede more serious complications. High drug fever, granulocytopenia, hematuria, anuria, and drug hepatitis are all indications for terminating treatment with the drug. Anuria in our experience, when detected early so that treatment was terminated early, has usually subsided spontaneously in twenty to thirty hours. When it has persisted beyond this time, we usually have obtained a satisfactory flow of urine by ureteral catheterization. When large doses of drug are given, an intake of 3,000 c.c. of fluid daily and an output of 1,500 c.c. of urine daily will aid in preventing complications. Usually all toxic manifestations will disappear in forty-eight to seventy-two hours after administration of the drug is stopped and if 4,000 to 5,000 c.c. of fluid are given daily. We know of no contraindication to the use of the sulfonamide drugs mentioned as available for treatment except a previous marked toxic reaction from treatment with them. When treatment with sulfonamide compounds is indicated in a case of this type, a small dose of the drug should be given cautiously and the patient should be kept under observation before an attempt is made at treatment.

We know of no contraindication to the concomitant administration of other drugs in the course of treatment with sulfonamides.

In conclusion it should be stated that a thorough knowledge of the action of the sulfonamide drugs plus a knowledge of their toxic manifestations together with careful observation of the patient under treatment will result in more successful treatment and less frequent occurrence of serious manifestations.

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Chemotherapy in the Acute Communicable Diseases*

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Since involvement of the upper respiratory area is a part of, or a complication in most of the acute communicable diseases, that area must necessarily be considered in any discussion of treatment; but we will limit ourselves to give way to others in the panel who will discuss the area specifically.

The new era in chemotherapy of bacterial infections was introduced by Domagk in 1935 when he published his observations on the effects of prontosil on experimental streptococcal infections.

Today the term chemotherapy has become synonomous with sulfa therapy. No other drug or therapeutic agent has ever gained such rapid and universal acceptance as have the compounds which are classed as sulfonamides. In about five years' time the sulfa drugs have become the most discussed medical subject. They have been the theme of a considerable proportion of medical literature in the past few years and they have found their way into the lay literature to the extent that many laymen now use these drugs without consulting a physician.

The sulfa drugs have no doubt been used for most of the ills to which humanity is heir.

It will be the task of the medical men correctly to classify the sulfa drugs. To determine in which diseases they manifest therapeutic value, to show when and how these compounds should be used, and to determine which of the numerous modifications best meet the given situation.

Much knowledge has been gained to help accomplish that task, but it will take time to arrive at the more complete knowledge.

Although most of us have had sufficient experience with the sulfonamides to have definite ideas about some of them, it behooves us to search diligently in medical literature for reports of those who have the greater opportunity for their clinical application, and of those others who delve in research problems.

The ideas expressed in this paper are the result of a limited personal experience, plus considerable review of literature on the subject of chemotherapy.

To give some idea of the enormous quantity of sulfonamides used, your attention is directed to the estimate which appears in the review of infectious diseases by Dr. Hobart Reiman,(1) published in Archives of Internal Medicine for August of 1940. Here we read that we have used a hundred and eighty-seven tons of sulfanilamide in this country in a single year.

One cannot help wondering how much of this represents intelligent use.

There is, naturally, much variation in opinions as to the value of the sulfonamides for the different disease entities. No doubt time will change some of these opinions, and experience will help to answer questions which are asked today.

In considering the acute communicable infections we may say that sufficient evidence has been accumulated to give the sulfonamides a large place in their treatment. Numerous articles have been published, many of which report the results of scientifically controlled groups of cases, whose numbers were sufficiently large to have definite significance from the statistical point of view.

All of us, no doubt, are familiar with the numerous reports on lowered fatality rates in pneumonia cases treated with sulfonamides. Chemotherapy in pneumonia is to be discussed by Dr. Stoesser who honors us by taking part in this panel.**

Next to pneumonia perhaps the greatest advance has come in the treatment of the meningitides. The reported fatality rates in cases treated with sulfonamides have been much lower than in cases treated with sera or antitoxins. In fact, results have been so satisfactory in the sulfanilamide treated cases that in some of the large clinics no other form of treatment is used. From Alder Hey Children's Hospital in Liverpool, Margaret Williams(2) states that since January, 1939, all cases of cerebrospinal meningitis have been treated by chemotherapy alone.

In 102 cases so treated there was a case fatality of only 12.7 percent. In this group

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21 were under 1 year of age and among these the fatality was 19 percent.

The author says, "The case fatality rate of 19 percent amongst the infants is perhaps the most striking testimony to the value of adequate sulfanilamide therapy."

Another statement from this article is significant also, it reads: "Of the total of 90 lumbar punctures performed at the end of 24 hours' therapy, 69 (76.7%) were found to be sterile."

Aside from the lowering of the mortality rate the comfort of the patient is to be considered and here chemotherapy has a decided advantage. Most patients are able to take the drug by mouth. When adequate dosage is administered the concentration in the spinal fluid rises rapidly. The patient need not be subjected to repeated intravenous or intramuscular injections, there is no intrathecal medication and spinal taps are greatly reduced in number.

In pneumococcic meningitis the results of chemotherapy have been more striking even than have the results in meningococcic meningitis. In writing of her experiences with sulfonamides in the treatment of meningitis due to Pneumococcus and Haemophilus Influenzae, Dr. Josephine Neal(3) of New York is very enthusiastic. After thirty years of experience with various forms of therapy the fatality in pneumococcus meningitis was still 100%, while that in haemophilus influenzae was 95%. When sulfanilamide was used the report shows ten recoveries out of thirty pneumococcus cases and fourteen recoveries out of twenty-nine influenza cases.

The experience of Dr. A. L. Hoyne of Chicago is very similar to that of Dr. Neal.

In hemolytic streptococcus meningitis the fatality rate has dropped from between 95 and 100% to 25%. In fact it may be said that chemotherapy has changed the picture in most of the meningitides.

Much has been reported on the value of chemotherapy in gonococcic infections in adults and apparently results are equally good in children.

A report by Michels(4) on the treatment of ophthalmia neonatorum shows that the hospitalization in these cases was reduced from 28.5 days to 5.8 days.

In vulvovaginitis sulfapyridine and sulfathiazole seem to be preferred to sulfanilamide.

Hoyne(5) and his associates in a study of fatality rates in 989 erysipelas patients, come to the conclusion that sulfanilamide is the most effective means of treatment of erysipelas. The lowest fatality rate in their experience was 2.4 percent among 162 sulfanilamide treated cases.

The mortality in erysipelas patients under two years of age have been reduced from 35 percent to 5 percent.

Aside from the infections in which the sulfonamides are known to be curative there are others in which these drugs have doubtful value. Scarlet fever is one of these. One finds reports in the literature by those who are enthusiastic users of sulfonamides in scarlet fever while others feel it has no value. It would be impossible in the time alloted for this paper to review even a small part of what has been written pro and con on this subject.

Raschoff and Nussbaum(6) reported their studies of some of the reviews published previously. They added their own findings. In their conclusions we read as follows:

1. "The effect of sulfanilamide in scarlet fever is not so beneficial as it has proved to be in other streptococcic infections, such as erysipelas or streptococcic meningitis.

2. Sulfanilamide given in proper doses during the initial stage of scarlet fever does not diminish the toxicity or duration of the fever. Frequently the malaise is intensified by the drug.

3. Sulfanilamide therapy reduced the incidence of complications in seven of the reports studies but had no effect or a deleterious one in four other series. In view of the prevailing favorable opinion and the availability of the drug, sulfanilamide should be given in severe and moderately severe scarlet fever until further evidence to the contrary is produced.

4. Sulfanilamide is not entirely harmless and should be given under supervision. Frequent studies of the blood are indicated."

Dr. Benjamin W. Carey(7) of Detroit writes:

> "Present experience indicates that chemotherapy combined with antitoxin or convalescent serum is the treatment of choice for most patients with scarlet fever. The drugs have no effect on the toxic manifestations of the disease but are responsible for the reduction in the number of complications due to invasion of the betahemolytic streptococcus from the throat. Sulfanilamide seems to be the drug of choice, although favorable effects have been observed with sulapyridine."

As regards the prophylactic use of the sulfonamides in scarlet fever, Barker(8) writes: "When an epidemic of scarlet fever or other hemolytic streptococcal infection breaks out in an institution or a household, it appears logical to administer sulfanilamide prophylactically to all exposed individuals for one week in the hope of curtailing the spread of the epidemic."

Thelanders' experiments(9) seem to prove that the sulfonamides have little effect on the Klebs-Loeffler bacillus and do not neutralize the toxins produced by this organism.

In spite of articles recommending the use of sulfonamides in diphtheria, we will perhaps do well to follow advice given by Carey(7). In relation to diptheria Dr. Carey writes:

> "This should be emphasized because of the common and desirable practice of administering sulfanilamide to patients with throat infections. One should not forget to culture material from these throats for the presence of bacillus diphtheria before starting chemotherapy and to administer diphtheria antitoxin if such an infection is present. There is a certain amount of evidence that sulfanilamide may be destructive to the diphtheria bacillus but that it has no effect on the toxin, and disastrous complications such as neuritis or myocarditis may occur later if antitoxin is omitted."

Thus far we have found no reports which would indicate that the sulfonamides are of value in the treatment of whooping cough. They should be used in pneumonia complicating whooping cough.

Typhoid fever falls in the group of diseases of which Dr. Reimann says the effectiveness of chemotherapy is of doubtful value. The newer compound sulfanilyl-guanidine may prove effective in treating infections of the intestinal tract. Time and further experience will tell.

Among the acute communicable diseases not yet considered in this paper is that large group known to be caused by filterable viruses. Examples are, small pox, chicken pox, mumps, measles, encephalitis, poliomyelitis, influenza and the common cold.

There is no scientific evidence either experimental or clinical that sulfonamides have any beneficial effect in these diseases and they should not be used in uncomplicated cases.

Unless it is for purely experimental purposes we should limit ourselves to the use of sulfonamides in those diseases in which they have proved their value, and we should select the drug which is known to be most effective in treating a given disease or condition.

Sulfanilamide should be used in treating hemolytic streptococcal infections, sore throat, complications of scarlet fever, erysipelas, streptococcal and meningococcal septicemias and meningitides.

Sulfaypridine or sulfathiazole should be our choice in pneumococcal and staphylococcal infections, and probably in gonococcal infections as well. Sulfanilyl-guanidine seems to be the drug of choice in infections of the intestinal tract.

Perhaps a short review of suggestions as to dosage may be in place. Studies relative to absorption and excretion of the sulfonamides have helped to set up certain standards for their administration. Long, Bliss, Marshall and others have formulated these standards for us.

Sulfanilamide for instance may be said to reach its concentration peak in the blood about four hours after it is administered. For that reason the four hour interval between doses is recommended.

When we are dealing with patients who are severely ill, and we wish to establish a high level of the drug in the circulating blood in the shortest possible time, we may give an initial dose amounting to one-half the calculated daily dose and then continue with one-sixth of the daily dose at four hour intervals. A blood concentration of 10 to 15 mg. percent is suggested for severely ill patients. To get such a concentration the dose varies from 2.2 grains per pound of body weight in infants, to 1.2 grains per pound of body weight in the mature individual. To establish blood levels of 5 to 10 mg. percent in less severely ill patients require doses of 1.2 grains per pound in infants and about 0.6 grain per pound in adults. These doses are then reduced as the condition of the patient warrents.

If for some reason the drug cannot be given by mouth it may be given by hypodermoclysis as a 1% solution in saline or preferably a one-sixth molar solution of sodium racemic lactate.

Parenteral use of sulfanilamide is not so satisfactory as is its oral use.

If large quantities of water are taken by the patient the dose of sulfanilamide must be increased because the drug is excreted in the urine.

Sulfanilamide passes readily into the spinal fluid and concentrations of 5 mg. per 100 c.c.

are thought to be adequate in the average case. Apparently there is no contraindication to the use of other drugs in conjunction with sulfanilamide. Whether or not bicarbonate of soda is necessary to prevent acidosis when giving sulfanilamide is a disputed question. We are told that the best known antidote for sulfanilamide is water.

Sulfaypridine is not so soluable as is sulfanilamide and is less regularly absorbed. Another disadvantage in its use is the conjugation to the inactive acetylated form. More frequent estimations of blood levels should be made when this drug is used. In this case blood levels of 4 to 6 mg. percent of free sulfapyridine are considered satisfactory for the control of mild or moderate infections, while levels of 7 to 12 mg. percent are desirable in more severe infections. A 5 percent solution of a soluble sodium salt of sulfapyridine may be given intravenously if necessary. It is highly alkaline and must be given very slowly. (5 c.c. per minute).

For children, Long recommends an initial dose of sulfapyridine amounting to 1 grain per pound and then ¼ grain per pound every six hours as a maintenance dose. The dose of sulfathiazole is the same.

Fluids should be forced in patients receiving either sulfapyridine or sulfathiazole to prevent precipitation of the acetyl salts in the kidneys.

If time permitted it would be interesting to consider toxic effects of these drugs.

When possible patients who receive the sulfonamides should be hospitalized for the best possible management and the safest control.

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War Ratio of Male to Female Births

The normal proportion of male births over female births was even greater in every European belligerent power during the last years of World War I and for perhaps two or three years afterward, The Journal of the American Medical Association for November 22 says in answer to an inquiry.

"The proportion of male births increased also in many of the important European neutral countries," The Journal continues, "including Norway, Sweden, the Netherlands and (for the year 1920) Switzerland. There was an observable rise in Australia, but not in the United States or in New Zealand, among the non-European belligerents. The increase in the proportion of male births, where observed was of short duration."

As for the reasons for this increase, The Journal says that "A simple explanation that seems entirely adequate has not yet been afforded."

Dogs and Tularemia

Evidence that dogs may be susceptible to infection with tularemia is presented in The Journal of the American Medical Association for December 13 by L. F. Ey and R. E. Daniels, Columbus, Ohio, who report an instance in which they found the disease occurring in 3 dogs and their master. The dogs recovered, whereas the owner died. Heretofore it had been considered by many that dogs possessed a natural immunity to the disease.

The owner of the 3 dogs went hunting with them on Nov. 6, 1940. The dogs ran down a rabbit which they killed and the master divided it into three pieces, giving one to each dog. The following day the youngest dog became ill and the other 2 dogs became ill a day or two later. On November 9 the owner of the dogs became quite ill with chills and fever and on November 11 he was hospitalized. Although he received antitularense serum treatment the owner of the animals died on November 16. Blood specimens from each of the 3 dogs were positive for the tularemia organism.

Chemotherapy in Otitis Media and Mastoiditis*

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With the advent of the sulfonamide group of drugs into the therapeutic armamentarium in acute otitis media and mastoiditis, there has developed a wide diversity of opinions as to the exact efficacy of these drugs in otitic infection. The practitioner, the pediatrician, and the otologist each according to his clinical experience and therapeutic objective with these drugs, has formulated his own indications in regard to their usage. Such a marked variability in methods of treatment is to be decried, and it is hoped that in the near future a revaluation of these drugs in otologic infection will establish a more exacting regimen in the therapy of this disease process.

A review of the recent literature on the chemotherapy of otitis media and mastoiditis is presented herewith, in an effort to interpret the present status of this subject as reported from the large otological dispensaries and hospitals, as well as from practitioners and investigators in this field.

The three drugs of the sulfonamide group used most extensively in otitis media and mastoiditis are sulfanilamide, sulfapyridine and sulfathiazol. Sulfanilamide is used with best results in streptococcic infections. Sulfapyridine is most active against infections due to pneumococcus; however, its results in streptococcic infection especially in those cases which do not respond to sulfanilamide therapy, are often brilliant. Sulfathiazol, the newest of the sulfonamide group of drugs, is ready to take its place in the rank of chemotherapeutic agents, and has been found to exert its effects most markedly upon the staphylococcus; however, it shows specificity for the pneumococcus and also the streptococcus. Van Dyke, Greep, Rake and McKee(1) state that this drug may be applied to the same types of infection and bacteria as the other derivatives, and has been shown by many authors to be superior to sulfanilamide in most cases.

The dosage of these drugs in otitis media and mastoiditis is the same as is given for any other disease process. Failure to give high enough dosage so as to obtain effective blood levels is often the cause of poor results. Hartmann(2) of St. Louis states that he would not give just a little of the drug for a few days and then stop least he be fooled by appearances. He advises giving full doses at the beginning. Bilchick and O'Kane(3) believe that "if the case is one of moderate or extreme severity, it should be hospitalized and very large doses used." Boies(4) states that if the infection is a virulent one, we should culture the organism, and institute the appropriate drug therapy, which includes adequate dosage of the drug used. Williams(5) believes that in acute mastoiditis, the blood concentration should be maintained at a rather high level, however at these levels he feels that toxic effects are apt to be more marked. From these reports and many others it is apparent that for desirable results with chemotherapy, adequate dosage must be given to establish effective blood levels.

As to the frequency of administration of these drugs, their rapid absorption from the gastro-intestinal tract, and rapid elimination through the kidney, requires that for optimum therapeutic results they should be administered at least every four hours.

The toxic effects of these drugs are well known to all of us. Suffice it to say that sulfanilamide causes more frequent and more toxic complications than do the other sulfonamide products; namely agranulocytosis, anemia, hematuria and hemoglobinuria.

With sulfapyridine therapy these toxic effects occur less frequently, however the nausea and vomiting associated with the ingestion of this drug is usually a most disturbing factor in its use.

Sulfathiazol is more rapidly absorbed and more rapidly excreted than other sulfanilamide derivatives, reaching its highest blood concentration in one to three hours after administration(1), and according to Levin(6) "the proportion of free sulfathiazol in the blood is also greater, hence a lower blood concentration may be effective."

The toxic effects are:

1. Transitory oliguria.
2. Transitory and mild dysfunctions of the hemopoietic system.

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3. Mild and only infrequent vomiting.
4. Extremely infrequent dermatitis and psychosis.

Considerable variation of opinion exists as to which drug is preferable before the tympanic membrane has rupture or been incised, or if culture of the discharge is unobtainable. In view of the fact that the toxic effects of sulfathiazol are usually transient, mild and very infrequent in occurence, and because sulfathiazol shows specificity for all the most frequent causitive organisms of otologic infection, and according to most investigators is usually superior to the other sulfonamide drugs, it would seem logical that sulfathiazol would be the drug of choice. Williams(5) however states that they used sulfathiazol with success, but with only slight increased success over sulfanilamide where streptococcus hemolyticus was the organism present. Other investigators believe that sulfanilamide is the drug of choice, in that most of the acute otologic infections are due to streptococcus. On the pediatric wards at the University of Nebraska Hospital, at the present time, we are in most instances starting our cases of acute otitis media on sulfathiazol, and believe that our clinical results are equal to, and in most cases superior to the results obtained by sulfanilamide or sulfapyridine.

One fact seems to be quite well agreed upon and that is that if definite improvement has not been observed by the second to the fifth day of therapy, a change to one of the other sulfanilamide derivatives is advisable, and may produce astounding results, unless of course, some other cause for failure is apparent.

Chemotherapy in otitis media is more an accepted procedure among most investigators than is chemotherapy in mastoiditis. In fact the majority of observers believe that sulfonamide drugs have a place in the therapy of early otitis media particularly before there has been any bone destruction. Bilchick and O'Kane(3) state that in their opinion "sulfanilamide should be given routinely to all cases of otitis media under careful supervision, but that surgery of the ear drum and mastoid should be carried out when indicated, irrespective of the administration of the drug; that excessive reliance upon the drug and neglect of surgery will result in frequent disasters." Bowers(7) of New York believes that if chemotherapy is given early, before bone destruction occurs, the duration of the discharge is diminished by about 50%. Boies(4) believes that in view of the known value of these drugs with certain organisms, any case of otitis media in which there is a febrile reaction and other evidence that the infection is a virulent one, the organism should be cultured, and appropriate chemotherapy instituted. Williams(5) also states that as far as the use of sulfonamide drugs in the treatment of otitis media is concerned, they have been using them in many of the cases of otitis media. However, he doubts if the increased percentage of cures secured by the use of the sulfonamide drugs is sufficient to out weigh the toxic effects so often produced. He continues to use these drugs in otitis media, however, and believes that perhaps the use of sulfonamide drugs in otitis media before marked suppurative changes have taken place is justifiable. Scal(8) contrary to this, believes that sulfanilamide is contraindicated in the early stages of an ear infection.

It has been stated that sulfonamide drugs depress the production of antibodies, however most observers believe that the formation of antibodies does not appear to be retarded by chemotherapy, and they favor the early use of these drugs in otitic infections.

The value of chemotherapy in mastoiditis is still a very much disputed question. Once the mastoid process has become infected, in some cases the disease process continues on to bone destruction in spite of sulfonamide therapy. Particularly is this true when chemotherapy is instituted after radiographic studies disclose definite bone destruction as evidenced by progressive destruction of the trabeculae. Bowers(7) believes that "if at the time of myringotomy, pus or fluid under pressure is revealed, with or without the presence of mastoid tenderness, and regardless of the results of culture, chemotherapy is indicated." Other observers have reported numerous cases in which chemotherapy has produced remarkable results in mastoid infection. However, they all agree that the disease process is masked, and must be followed and observed very carefully. Scal(8) does not favor using these drugs in mastoid infection and states that "in acute mastoiditis, with sulfanilamide therapy, the temperature may drop and all the symptoms and tenderness disappear while roentgen examination still shows increasing destruction." Williams(5) finds that in using these drugs in mastoiditis, "there is a tendency for the drug to abolish fever, and other signs and symptoms, while destruction in the mastoid process is progressing. He wonders if we were justified in using such active therapeutic measures in uncomplicated mastoiditis which has such a marked tendency to resolve." Still other investigators believe that chemotherapy should be withheld until mastoidectomy has been performed and then use it in postoperative therapy. Scal(8) states that such therapy has been found to result in a less eventful postoperative course.

Considerable variation of opinion exists as to whether chemotherapy has definitely caused a reduction in the incidence of surgical mastoids. Hartmann(2) believes that one has to do as many operations with chemotherapy as without, unless one sees the patient very early in the course of the disease. Converse(9) from the Mosher Laboratory at the Massachusetts Eye and Ear Infirmary, and Houser(10) from the University of Pennsylvania, feel that the incidence of acute surgical mastoiditis has not been reduced materially. Boies(4) states that "we are seeing an increased number of cases in which sulfanilamide or sulfapyridine had been used and in which there has been a masking of the inflammatory process, but in which surgery is eventually needed. In many of these the dosage has probably been inadequate in the terms of which we believe to be the necessary blood levels. We are also hearing opinions to the effect that the use of sulfanilamide and sulfapyridine has markedly decreased the number of surgical mastoids. Boies(4) believes this is true but feels that we have not had any real epidemics of the type of infections which frequently produce surgical mastoids, and this is probably due to the fact that these infections are better controlled because of these drugs. Contrary to this Fisher(11) reporting from the otolaryngological department of Johns Hopkins University, Galloway(12) from the Evanston and Cook County Hospitals, and Horan and French(13) from an English Naval Hospital, state that the use of sulfanilamide has definitely decreased the incidence of mastoiditis complicating otitis media. Bowers(7) feels that if chemotherapy is given early before destruction occurs, the number of mastoidectomies is diminished by about fifty percent; and Lindsay(14) of Chicago states that "the experience at the University of Chicago clinics during the past three to four years has been that the number of operations necessary for acute mastoid suppuration has dropped materially." This he feels, apparently corresponds with general experience throughout the country. He believes that the incidence of complications of acute suppuration of the middle ear and mastoid has not decreased in the same ratio, and in many instances has increased.

It appears that all observers are agreed that chemotherapy in the complications of mastoiditis is definitely indicated. Williams(5) states that "when a complication of mastoiditis such as septicemia or meningitis is apparent, the life-saving value of these drugs, cannot be too highly extolled," and believes that their use in these complications is imperative, together with suitable operative intervention. Converse(9) and Houser(10) also believe that these drugs should be reserved for the more serious complications of mastoiditis.

From the reports summarized above, it becomes evident that there is inconsistency in the use of chemotherapy in every stage of acute otitic infection, except in the serious complications of mastoiditis. It is perplexing for the individual physician to evaluate reports from clinical centers that are practically contradictory. Shall we condemn these drugs for their toxic effects, for their tendency to mask the disease process and produce a possible increase in the complications of mastoiditis; or rather, as suggested by Harkness(15), "shall we acknowlege their chemotherapeutic value, with precautions against potentialities for harm, and a realization that temporary masking symptoms does not mean final recovery." The general practitioner and the pediatrician have adopted their use with enthusiasm, weighing an occasional abuse or drug complication against the benefits to the greatest number of patients." However the otologist, who observes the extensive mastoid destruction at operation, with the possible increased likelihood to complications, is becoming more reluctant to use these drugs.

The clinical objective in the chemotherapy of otitis media and mastoiditis should be to secure dramatic improvement within twelve hours, and a normal temperature and an apparently arrested infection within forty-eight hours. Failure to achieve such a response, according to Lyons and Ganz(16) of Boston, "demands investigation of the following possible causes:

1. Inadequate blood concentration of the chemotherapeutic agent.
2. Deficiency of antibacterial antibody.
3. A focus of inflammatory fixation; ie. undrained pus, or necrotic tissue.
4. Intravascular or perivascular sepsis, ie. septicemia, or thrombophlebitis.
5. Drug Toxemia.

They state that effort should be made to terminate intensive treatment within the first ten days, as results should be complete by that time, and after this period drug toxemia occurs more frequently."

As Harkness(15) summarizes the present status of chemotherapy in otitis media and mastoiditis, "rather broad rules of procedure seem logical in private practice. The earlier chemotherapy is used, the better the results. Hospitalization is desirable but not a necessity. Identification of the organism and frequent blood counts are a necessity. Determinations of blood concentrations are preferred, but often not practicable. Rapid absorption and elimination calls for doses at four hour intervals. Renal and hepatic complications demand extra precautions. A patient seen late with a markedly increasing discharge and mastoid tenderness is not a good candidate for chemotherapy. Marked clinical improvement should occur in seventy-two hours. With clinical and bacterial recovery, treatment with reduced doses should continue for ten days." "Chemotherapy is not a panacea; it will fail at times; its use may be contraindicated; it may mask symptoms; it does not replace definitely indicated surgical intervention; but if it is used with judgement, its good results at times are astounding, and does not materially increase the hazard to the patient.

In conclusion, the value of chemotherapy in otitis media and mastoiditis is a very much disputed question.

Either sulfanilamide, sulfapyridine or sulfathiazol may be used, with a probable preference for sulfathiazol.

Adequate doses should be given for forty-eight to seventy-two hours.

Chemotherapy in otitis media, particularly before bone destruction has occurred, seems justifiable.

The value of chemotherapy in mastoiditis is uncertain.

Chemotherapy following mastoidectomy is advisable.

Chemotherapy in mastoid complications is imperative.

Reduction in the incidence of surgical mastoids is questionable.

Chemotherapy is a valuable aid in the treatment of otologic infection, but an aid which has changed the clinical picture so much that it produces a false sense of security and demands a new interpretation.

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Chemotherapy in Upper Respiratory Infections With Special Reference to the Throat*

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Infections of the upper respiratory tract constitute a high percentage of private pediatric practice. These infections, together with their complications and sequelae, vary remarkably in their severity and localization. They range from the simple common cold at one end of the series to a fatal septicemia at the other end. Between these two extremes, we find any number of infections without any sharp line of differentiation as to etiology or pathology. In the infant and younger child, the inflammatory process is ordinarily quite diffuse, and it is difficult to designate the infection in terms of any particular structure. In the older child, there is more of a tendency for the picture to be dominated by some special localization, and thus we may logically make a specific structural diagnosis, e.g., pharyngitis, but we should keep in mind that the majority of such cases also have involvement, in varying degrees, of other portions of the upper respiratory tract. For these reasons, I shall speak of upper respiratory infections in general, because for practical purposes what is said will be applicable to all infections, whether they be localized or diffuse.

To arrive at a rational basis for the chemotherapy of these various upper respiratory infections, certain basic facts should be considered. It has been definitely established by a number of investigators,(1) that the apparently normal nose and throat of infants and children harbor, in a high percentage of cases, numerous potentially pathogenic bacteria during the fall, winter, and spring months of the year. In general, after the first few months of life, the younger the individual the more likely he is to harbor these pathogenic bacteria. A recent study(2) may be cited as an example of the frequency with which pathogenic bacteria may be found in apparently normal children. This study involved a group of forty children between the ages of 2 and 8 years attending a day nursery and covered the months during which upper respiratory infections occur most frequently. It was found that 38 of the 40 children were carriers of pathogenic pneumococci at one time or another, and that 12 of them were chronic carriers. 14 of the 40 were transient carriers of hemolytic streptococci. Staphylococci were found in over 50% of all cultures. While these figures seem rather high, it should be noted that practically all comparable research confirms this report, and, in addition, many emphasize the fact that during throat infections the incidence of hemolytic streptococci becomes much higher.(3) Needless to say, other pathogenic bacteria were found in the various studies conducted, but since they infrequently play an active part in the process, we may well omit their consideration.

Any factor which lowers the resistance of the mucous membrane of the upper respiratory tract enables the pathogenic bacteria present to multiply more rapidly and to possibly invade the tissues, giving rise to a bacterial infection as well as the primary pathology. Whether or not a definite bacterial infection develops in such a case depends a great deal upon the resistance of the patient to such bacteria. This explains why, in most individuals, only the primary pathology, e.g., a common cold, is observed, while in others with limited resistance to the bacteria we see severe bacterial infections and complications.

There are many infections occurring in the upper respiratory tract which do not develop in the foregoing sequence but are primarily bacterial in origin. These are caused by a massive invasion of the patient by pathogenic bacteria. Hemolytic streptococci are responsible for roughly half of these cases. Pneumococci, staphylococci, non-hemolytic streptococci and influenza bacilli are responsible for the others. Infections in which two or more of the foregoing bacteria are present are not uncommon.

This brings us to the selection of a chemotherapeutic agent which will be effective in the treatment of these various bacterial infections. Abundant literature is available testifying to the effectiveness of the sulfonamide compounds in the treatment of numerous bacterial infections. Since hemolytic streptococci, pneumococci and staphylococci are most often involved, a single drug which is effective against all three organisms would be extremely desirable. Sulfanilamide is highly effective against the hemolytic streptococcus, but has little or no effect on the pneumococcus and staphylococcus. Sulfapyridine, while effective against the pneumococcus and streptococcus, has no appreciable effect on the staphylococcus. Sulfathiazole has proven itself to be highly effective against pneumococci of all types, and seems to be fairly efficient in the treatment of staphylococcic infections. Adequate research has been done in the laboratory to show that sulfathiazole is as effective as sulfanilamide, if not more so, in the treatment of hemolytic streptococcic infections(4). Clinical evidence that sulfathiazole is highly effective against hemolytic streptococcic infection is now appearing in the medical literature(5). My personal experience indicates that sulfathiazole is more effective than sulfanilamide in the treatment of hemolytic streptococcic infections of the throat. Sulfathiazole thus seems to be the drug of choice in the treatment of practically all infections of the upper respiratory tract in which bacteria are involved.

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In addition to its effectiveness, sulfathiazole has a lower incidence of toxicity when compared with sulfanilamide and sulfapyridine. This is particularly true in children and the incidence of toxic reactions in childhood following the use of the drug is even less than in the adult. One should be familiar with the various toxic manifestations and their frequency of occurrence, so that in cases in which we are considering use of the drug we may judge whether the benefits likely to be observed will be sufficient to counterbalance any toxicity that may arise. Nausea is seldom complained of by children, but vomiting does occur in a low percentage of patients, and in some seems to occur regardless of the amount of the drug ingested. Vomiting is seldom severe enough to cause discontinuance of the drug. Other than for the inconvenience, the nausea and vomiting may be ignored as toxic manifestations.

The remainder of the toxic manifestations are potentially dangerous and should be watched for carefully during administration of the drug. The various toxic reactions and their incidence in childhood are as follows:(6)

Vomiting—	
Mild	6.0%
Severe	0.6%
Dermatitis	3.0%
Hematuria—	
Microscopic	1.0%
Gross	0%
Drug fever	0.3%
Leucopenia (Below 5,000)	0.6%
Diarrhea	1.0%
Jaundice (Due to drug?)	0.6%
Hemolytic Anemia	0%
Urinary Calculi	0%
Psychosis	0%
Conjunctivitis	0%

(Figures derived from series of 344 cases).

The question arises, "When should one resort to the use of chemotherapy in upper respiratory infections?" I know of no general rules regarding this question and one must rely almost entirely upon clinical judgment. A few words may well be said here regarding cultures. Without question, cultures of the involved areas are of importance in determining the etiological organisms in bacterial infections but are not indispensable except to rule out infections such as diphtheria. As stated earlier in this paper, pathogenic bacteria may be found in the normal nose and throat, and, in the presence of any inflammation of the throat the incidence of hemolytic streptococci becomes higher. Consequently, just because pathogenic bacteria are cultured from the involved area, it does not mean that they are invading the tissues and playing an active part in the infection; it only makes it probable that they are. On the other hand, we are familiar with the fact that in typical scarlet fever, we occasionally obtain a negative culture for streptococci. This implies that we should be prepared to make repeated cultures to determine the offending bacteria in cases where the laboratory reports do not confirm our clinical impressions. In other words, our decision to use chemotherapy should be influenced as much, if not more, by the local findings and constitutional reaction of the patient as by the presence or absence of certain bacteria in the cultures. Since sulfathiazole is effective against the organisms that are involved in a majority of the bacterial infections of the upper respiratory tract, it seems logical to assume that the use of it is indicated whenever we decide that there is evidence of bacterial invasions not being effectively combated by the patient.

The virus infections, such as the common cold, influenza, and influenza-like infections are not in themselves affected by any of the now available chemotherapeutic agents. Mild and moderate infections, regardless of their etiology, will in the majority of cases subside within a few days with the usual palliative measures. The use of chemotherapy in these cases is not indicated, at least early in the course of the disease. If such cases fail to respond to the usual measures, or if complications such as cervical adenitis or otitis media develop, indicating definite bacterial involvement, I feel that one is justified in initiating sulfathiazole therapy. In severe infections of the upper respiratory tract, bacteria nearly always play an active part in the process, and regardless of the presence or absence of complications sulfathiazole is worthy of trial.

Prior to initiating therapy with sulfathiazole, a complete blood count should be made. This procedure will not only give values for comparison later, but will serve as a diagnostic aid particularly in the various blood dyscrasias which may simulate acute infections in the pharynx. A preliminary urinalysis showing acute or chronic renal disease is an indication that the blood level of the drug will have to be followed carefully. Hemoglobin determinations and total white blood counts, both of which may be readily done in the home, should be repeated at least every other day and preferably every day, as long as chemotherapy is continued. The urine should be examined, especially for red blood cells, at least every second day. If these simple laboratory procedures are carried out and the patient examined daily for evidence of other toxic manifestations, there can be very little danger in the use of sulfathiazole.

The dosage of sulfathiazole in the treatment of upper respiratory infections should be comparatively high to secure the best possible results. The dosage for children is best calculated according to weight. A convenient method of calculating the dosage designed to place the patient as rapidly as possible under the influence of the drug is as follows: For the initial dose, give ½ grain per pound of body weight. For the succeeding doses, the amount is calculated on a basis of 1 to 1½ grains per pound of body weight per 24 hours, 1/6 of this calculated amount being given every 4 hours day and night. During infancy and early childhood, because of more rapid excretion of the drug, the dosage should be calculated on the basis of 1½ grains per pound of body weight. The daily dosage of 1 grain per pound is adequate for the older child. Full dosage of sulfathiazole is indicated for two days after the temperature becomes normal, after which the amounts may be reduced one-half and this should be continued several more days to prevent a recurrence of the infection. Patients who show no improvement on the above regime after 72 hours should have the drug discontinued, unless it has been proven that the infecting organism is one which is susceptible to sulfathiazole, in which case it is advisable to determine the blood concentration to ascertain if an effective level has been reached. It should also be kept in mind that occasionally patients fail to respond to one sulfonamide compound but respond dramatically to another. The appearance of any of the toxic manifestations of sulfathiazole, other than nausea and mild vomiting, is an indication to immediately discontinue the medication.

Regarding the blood sulfathiazole levels, it is usually stated that to be effective one should have a blood concentration between 3 and 6 mgm. %. In the treatment of pneumonia with sulfathiazole there seems to be little correlation between the blood level and the clinical result, equally good results being obtained with blood concentrations of 1 mgm. % as with much higher levels. Giving sulfathiazole in the dosage outlined in this paper should result in a blood concentration between 2 and 6 mgm. % in approximately 85% of the cases. Blood studies of the drug may be reserved for cases in which there is no response to the medication, for patients with acute nephritis to prevent too high a concentration developing, and for patients with chronic renal disease to determine if a sufficient concentration has been reached.

SUMMARY

Upper respiratory infections may be:

1. Primarily bacterial in origin;

2. Those in which bacteria are active as secondary invaders;

3. Infections in which bacteria, while not actively involved, are always a potential danger.

The organisms involved in a majority of the infections showing bacterial involvement are the hemolytic streptococcus, the pneumococcus and the staphylococcus. Sulfathiazole is effective against these organisms.

Sulfathiazole should not be used as a panacea for all upper respiratory infections, but should be reserved for those cases in which bacterial involvement seems definite.

(Bibliography in Reprints)

Ophthalmia in the Newborn*

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Ophthalmia neonatorum includes all types of conjunctivitis in the newborn. The etiological factor may be bacterial, virus, or chemical.

Shortly after Neisser(1) in 1879 discovered the gonococcus in secretions of urethritis, other investigators found the same diplococcus in certain cases of blenorrhea. The gonococcus was, therefore, the first micro-organism to be recognized as a cause ophthalmia in the newborn.

Improved bacteriological technique soon disclosed that bacteria other than the gonococcus could also cause opthalmia neonatorum. Morax(2) established the pneumococcus as an etiological factor; Axenfeldt(2), the staphylococcus aureus; and Stargardt(3), Schmeickler(4), and Lindner(5), the inclusion body.

The use of silver nitrate in the eyes of all newborn, according to Crede(6), reduced the incidence of blenorrhea from 10.8 per cent to about 0.15 per cent.

Lehrfeld(7) found that in Philadelphia the incidence of the disease had failed to decrease in spite of routine Crede procedure. He reported that approximately 28 per cent were gonorrheal; but in those hospitals diagnosing and treating gonorrhea in the expectant mother, the rate of infection was 1/5 that found in other hospitals.

At the University of Iowa, Thygeson(8) found in 37 months 261 cases of ophthalmia in 3,939 births, or an incidence of 6.6 per cent. Among the 261 cases, only one was identified as gonorrheal ophthalmia. This makes the incidence of .022 per cent of gonorrheal ophthalmia at the University of Iowa compare favorably with the 0.15 per cent reported by Crede(6) at Leipzig.

DIAGNOSIS

The diagnosis of ophthalmia in the newborn may be made clinically and by comparatively simply laboratory procedures. Particular attention must be paid to the incubation period, type of onset, and course of the disease. Cultures, secretion smears, and epithelial scrapings should be made in each case. Secretion obtained by gently drawing a platinum loop over the conjunctival surface of the lower lid is transferred to blood agar plates and to two glass slides. One slide is stained after Gram's method and the other by Giemsa's. Next an epithelial scraping is made by first irrigating away any surface discharge with saline or boric acid solution, and then gently but firmly drawing a spatula or small curet across the conjunctival surface of the lower lid. The epithelium obtained by the spatula or curet is then transferred to two glass slides, one of which is stained by Giemsa's method and the other by Gram's.

A spatula is easily made from a short length of No. 15 platinum wire. This implement may be sterilized by heating in a flame and used over and over again.

The upper lid in an infant can seldom be safely turned, particularly if edema and profuse discharge are present.

The technique of Gram's stain is familiar to everyone. A comparatively rapid Giemsa stain may be done by fixing the preparation in absolute methyl alcohol for about one hour. The slide is then dried and transferred to a freshly prepared mixture of stock Giemsa stain and neutral distilled water. This mixture consists of 15 to 20 drops of Giemsa stain in every 40 cc. of water. The slide remains in the Giemsa stain for one hour, after which it is washed with distilled water and examined microscopically. If the cells are stained too deeply, a wash in 95 per cent alcohol removes the excess stain.

NORMAL FLORA

C. Xerosis, C. Hoffmann, Sarcinae, and Staphylococcus albus are the only frequently-occurring conjunctival saprophytes.

STAPHYLOCOCCIC CONJUNCTIVITIS

The staphylococcus aureus causes about 50 per cent of ophthalmia in the newborn. The incubation period varies between seven and ten days. The onset is seldom severe, but the conjunctiva eventually becomes injected, the lids somewhat edematous, and a rather profuse mucopurulent discharge appears. Epithelial scrapings are negative because staphylococci are unable to attack normal conjunctival epithelial cells. Secretion smears and cultures show numerous typical staphylococci usually hemolytic in type. Some may resemble gonococci by virtue of their coffee-bean shape and their position inside leucocytes. The Gram stain readily differentiates them from the Gram negative gonococci. Staphylococcic conjunctivitis responds to simple treatment.

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*Read before Annual Assembly Nebraska State Medical Association, Lincoln, May 6, 1941.

PNEUMOCOCCIC CONJUNCTIVITIS

The pneumococcus accounts for about 15 per cent of conjunctives in the newborn. The clinical course of pneumococcic conjunctivitis is similar to that of the staphylococcus. The onset is usually mild with prompt response to ordinary treatment. The differentiation of the pneumococcus from other bacteria is by smear, morphology, and colony appearance. As the pneumococcus rarely proliferates on conjunctival epithelium, the study of epithelial scrapings is of little value.

INCLUSION BODY BLENORRHEA

The inclusion body is found as an etiological factor in about 10 percent of cases. This disease usually begins with acute symptoms on the seventh to the tenth day after exposure. There is edema of the lids, severe infiltration, and chemosis of the conjunctiva of the lower eye lids and fornices. Typically, longitudinal ridges or rugae develop in the conjunctiva of the inferior fornix. The secretion is abundant and creamy. The resemblance of this disease to that caused by the gonococcus is often striking. It may be differentiated by the longer incubation period, the predominant involvement of the conjunctiva of the lower eyelid, and the finding of inclusion bodies in epithelial scrapings.

Evidence that this disease is of birth canal origin was first supplied by Halberstaldter and Prowazek(9) and more recently by Thygeson and Mengert(10). The latter in 1936 recovered inclusion bodies from the genito urinary tract of seven of ten mothers whose babies had inclusion blenorrhea.

There now seems little doubt that a virus is the etiological factor in producing inclusion body conjunctivitis. This virus has a relatively large nonfiltrable young form, the intial body, and minute filterable coccus-like mature form, the elementary body.

In Giemsa preparation, the elementary inclusion bodies are easy to identify. They appear in epithelial cells as intracytoplasmic minute uniformly sized, purple-staining granules in a relatively clear matrix.

The initial inclusion body is composed of one or more usually large oval or round blue staining bodies in the cytoplasm of the conjunctival epithelial cell. These viruses go through a definite developmental cycle somewhat as follows: "A free elementary body penetrates an epithelial cell and, growing at the expense of the cytoplasm, enlarges to become an initial body. The initial body then divides, at first forming elements of approximately equal size; these become progressively smaller until the end stage or elementary body stage is reached; rupture of the cell, facilitated by the exhaustion of cytoplasmic substance, liberates the elementary body to infect new cells." (Thygeson-Mengert(10)).

Inclusion body blenorrhea has been noted for its resistance to treatment and for its long duration—three to fourteen months. It now responds readily to sulfonamide therapy.

GONOCOCCIC CONJUNCTIVITIS

Although the gonococcus accounts for a surprisingly small number of diseased conjunctiva, if it is not promptly isolated and eradicated, devastating inflammation usually arises. The clinical course of gonococcic conjunctivitis is fulminating. Following a very short incubation period of 24 to 48 hours, severe edema of the lids, conjunctival injection and chemosis, profuse creamy discharge, corneal ulceration, and perforation of the globe may take place. The diagnosis is easily made by finding large numbers of the gram negative coffee-bean shape diplococci on epithelial cells, in leucocytes, and free in the secretion. Therapy must be intense. The use of the sulfonamides has brought an effective about face in the outcome of these cases.

MISCELLANEOUS CONJUNCTIVITIS

The influenza and colon bacillus, the streptococcus viridans, and mixed infections account for some twelve per cent of cases. They are easily diagnosed by bacteriological examination and respond rapidly to simple therapy.

Congenital stenosis of the nasolacrimal duct often gives rise to a relatively late conjunctivitis—always after the tenth day. The diagnosis is made by obtaining a regurgitation of pus by pressure over the lacrimal sac or by a failure to irrigate fluid through the nasal lacrimal passage with a lacrimal syringe. The conjunctivitis recedes as lacrimal function is restored.

CONJUNCTIVITIS WITH NEGATIVE FINDINGS

Some thirteen per cent of conjunctivitis in the newborn have negative bacteriological findings. Silver nitrate reactions usually occur within the first three days of life. They are mild and subside promptly. Many diagnoses are not made because certain bacteria are so few in number as to go unrecognized.

PROPHYLAXIS

Insistence that expectant mothers come in for prenatal examination is a necessary prophylactic measure. Routine vaginal smears must be taken, and those women harboring pathogenic organisms should be vigorously treated and followed. The eyes of babies born to infected mothers must be carefully treated and observed. Although silver nitrate apparently fails to prevent certain types of non-gonorrheal conjunctivitis, particularly inclusion body blenorrhea, modification of the Crede treatment seems the most efficacious prophylactic measure.

Silver nitrate solution, one per cent, is most effective in preventing gonorrhea infection if instilled immediately after birth and again after the baby has been cleansed and put in the nursery—two hours intervening between instillations. Too often silver nitrate is instilled only once; then in cleansing the baby's face infected debris is carried into the eyes and ophthalmia develops.

Although wax capsules containing 1 per cent silver nitrate are now used, a solution made up in a larger quantity is occasionally instilled. If this solution has stood for any length of time, it may become concentrated and cause a dense corneal opacity. Rambo(11) believes the use of silver acetate would obviate this difficulty. Silver acetate, apparently as efficacious as silver nitrate, is soluble to only 1 per cent and therefore can never be concentrated to a harmful degree. The laws of the State of Nebraska demand that the physician use in the eyes of newly born children 1 to 4 per cent silver nitrate solution; or a 10 to 40 per cent protargol solution; or argyrol in a 40 to 50 per cent solution. Protargol and argyrol are probably not quite as efficacious as silver nitrate and are not widely used as a substitute for the nitrate of silver.

Perhaps in the near future one of the sulfonamides, possibly an ointment of sodium sulfathiazole will supplant the Crede procedure. The sulfonamides not only affect gonococci but react against staphylococci, pneumococci, and inclusion body viruses.

THERAPY

A revolutionary change has taken place in the treatment of ophthalmia neontorum with the advent of sulfonamide therapy. Previous to 1938 a gonorrheal ophthalmia meant many weeks of treatment. Frequent irrigations, ice compresses, atropine, silver nitrate and argyrol instillations, foreign protein canthotomies, etc., were part of the treatment. Many eyes were lost and others severely damaged. Early in 1938 Willis(12) reported the use of sulfanilamide by mouth in the treatment of gonorrheal ophthalmia. Now with a like but less toxic drug, sulfathiazole, Neisserian conjunctivitis gets well virtually before our eyes. Negative conjunctival scrapings are nearly always obtained within seven days after the advent of the disease.

At the University of Nebraska hospital, we are now irrigating the gonorrhea-infected eyes of the newborn only frequently enough to keep them clean. Sulfathiazole, one-half grain per pound of body weight, is divided into six portions, and one portion is given every four hours night and day in the feeding or water bottle for 24 hours. An accompanying alkali is not employed. We have yet to see a toxic reaction severe enough to discontinue the drug. The drug is not continued after negative scrapings are obtained on three successive days.

The notoriously chronic inclusion body blenorrhea also fades rapidly when sulfathiazole is given. The dosage is identical with that employed in gonorrheal conjunctivitis.

It is felt that sulfonamide therapy is too radical to employ in staphylococcic and pneumococcic ophthalmia. These are easily controlled by frequent irrigations and the use of a solution of oxycyanide of mercury 1-5000 or a 1/5 of 1 per cent solution of zinc sulphate several times a day. If the conjunctivitis persists, the lacrimal passages are investigated for evidence of stenosis.

CONCLUSION

Staphylococci, pneumococci, and inclusion body viruses are the most common causes of ophthalmia neonatorum. Bacteriological differentiation is easily made. The gonococcus is not a frequent etiological factor of conjunctivitis in the newborn, particularly if a Crede procedure is properly carried out.

Silver nitrate, 1 per cent, instilled immediately after birth and again 2 to 3 hours later will still further decrease the incidence of gonorrheal ophthalmia. The use of silver acetate will prevent the occasional corneal opacity that follows the accidental use of too strong silver nitrate. The advent of sulfonamide therapy has entirely changed the treatment of conjunctivitis in the newborn. Gonorrheal ophthalmia and inclusion body blenorrhea respond immediately to small doses of oral sulfathiazole. Staphylococcic and pneumococcic conjunctivitis respond to simpler measures.

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Finlay Institute of the Americas Is Organized in Havana, Cuba

"On January 6 in the Medical School of the University of Havana an agreement was reached for the establishment of an organization known as the Finlay Institute of the Americas to foster research and education in the field of tropical disease and to provide for an increased interchange of medical students and teachers among scientific medical institutions in all the American nations," The Journal of the American Medical Association for January 17 says. "Mr. Basil O'Connor, at present president of the National Foundation for Infantile Paralysis, accepted the presidency of the executive council. Dr. James E. Paullin, president-elect of the American College of Surgeons, was appointed chairman of the Scientific Advisory Committee for the United States. Other members appointed to the executive council included Drs. Thomas Mackie, president of the American Society of Tropical Disease; Dr. Morris Fishbein, editor of The Journal of the American Medical Association; Dr. Edgar Mayer, associate professor of medicine in Cornell University and also in the University of Havana; Dr. Enrique Saladrigas, director of the Finlay Institute of the University of Havana; Dr. Rafael Menocal, professor of surgery in the University of Havana, and Dr. Felix Hurtado, assistant minister of public health of Cuba. Executive offices will be established both in Havana and in New York. The Cuban government agreed to provide $20,000 annually for maintenance of the organization. Substantial contributions were made by several American industrialists and philanthropists.

"In the course of the negotiations for the establishment of the Finlay Institute of the Americas Mr. O'Connor presented to President Batista of Cuba and to the minister of public health, Dr. Marruz, messages from President Roosevelt and Vice President Henry Wallace, indicating their approval of the project to foster more intense cooperation between scientific institutions of the Latin American countries. Mr. Donald Nelson, who accompanied the party to Cuba, also conferred with President Batista. The University of Havana and the medical school of the university, during the course of the negotiations, provided receptions by their faculties, and addresses were made by the American visitors and also by leading Cuban officials. Representatives of the Cuban Federation of Medicine also presented to the American delegation an offer of complete cooperation in the campaign for medical service in the war. The order of Carlos Finlay was conferred on the American visitors by President Batista. A constitution and by-laws are being prepared for the conduct of the new institute, which should serve a most useful purpose in fostering scientific interchange and good will among the medical professions of all the Latin American countries."

A Sequel of Knee Ligament Strain:

Pellegrini-Stieda's Disease (Metacondylar Traumatic Osteoma)

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Injury is manifested in any of the component tissues of an extremity by reactions varying with each tissue. Pain is prominent in all. Skeletal injury is easy to visualize immediately by roentgenological examination. However, soft tissue injury must be ascertained by proper examination and interpretation based on clinical experience, as there is a lack of roentgenological evidence, at least in the early stages. Injuries of the knee ligaments occur frequently, presumably because the degree of necessary injury is less than that for skeletal change, and because of the complex structure and mechanism of the knee joint proper. Of the latter injuries, changes in the medial collateral ligament are most common because of the increased strain demands incidental to the normal valgus of the joint and because of the greater mobility of the medial semilunar cartilage which is intimately attached to this ligament. Although most strains rapidly subside and recover fully, a late complication may develop following strain of the medial collateral ligament of the knee. This consists of new bone formation within the site of the injury and is known as Pellegrini-Stieda's disease.

First described by Kohler in 1903, this entity is usually known by the names of the two authors who described it two years later. The characteristic feature is the presence of an area of new bone or calcific change in the region of the medial femoral condyle, presumably the femoral end of the medial collateral ligament. As it follows trauma, either direct or indirect, the entity is usually found in active adults. The earliest symptoms are those of synovitis, i. e. pain and swelling, followed by some improvement but not complete recovery. Limitation of motion may occur gradually and become progressive; tenderness is localized over the medial aspect of the medial femoral condyle which may gradually appear enlarged on palpation. This enlargement, bony or calcific, may or may not be the cause of the disability. It is plausible to expect the changes associated with medial collateral ligament injury, namely joint relaxation and semilunar cartilage injury, to contribute greatly to the disability.

Drawing an analogy with similar conditions such as traumatic myositis ossificans, there is hyperemic decalcification of the medial condyle at the side of injury. This calcium is re-deposited in the ligament and may be the local excess necessary for bone formation. This nodule may disappear in the course of time; more often it enlarges to a certain size which persists.

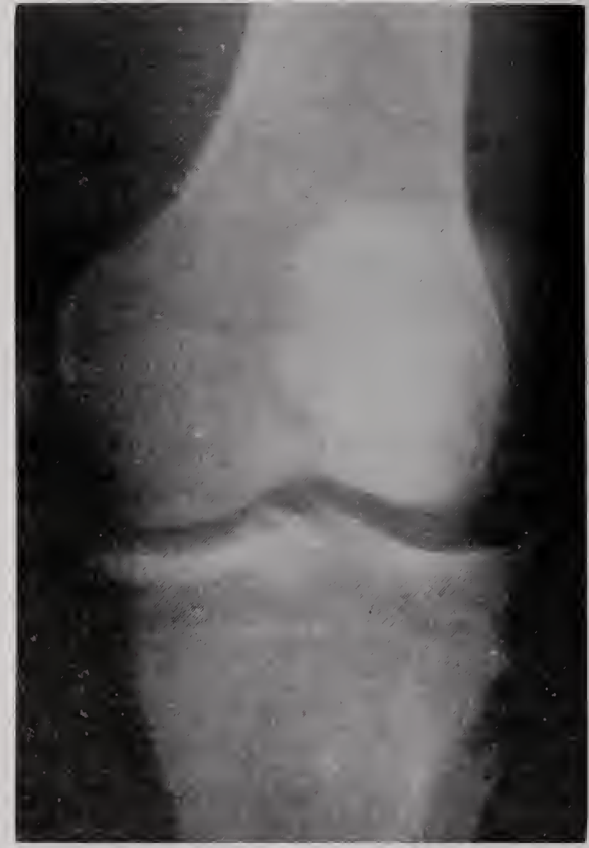
Fig. 1.

Treatment of this disability consists of protection of all ligament strains from further injury by immobilization in splint or cast to remove all stimuli which may increase bone formation, and the addition of deep heat, preferably diathermy, to facilitate absorption if the process is brought to a stand by the immobilization. Surgical removal is seldom necessary as it rarely becomes sufficiently large to give rise to a mechanical disorder. Surgical treatment of associated disorders, such as cartilage injury, must be based on the individual case.

This complication may or may not be generally appreciated. However, the rapidity with which an area of increased density within the area of ligament attachment may appear on the roentgenogram following injury is not appreciated. For this reason alone, this case report is justified.

CASE REPORT

J. S. No. 1286, a 39-year-old plasterer, referred by Dr. M. H. Brodkey, on October 8, 1940, complained of pain and disability of the left knee. Having no previous history of injury, the patient fell off a scaffold on September 20, 1940, turning the left leg into marked valgus and producing severe pain. On attempting to walk, he felt a snap in the knee which then became quite freely movable but developed moderate swelling. Despite the latter, the patient continued to work until September 25, 1940, when he consulted his physician. X-ray examination showed no bony change (Fig. 1). Against orders, the patient worked another day to finish a contract. When seen October 8, 1940, examination showed flexion-extension range of 45 to 160 degrees, swelling of ¼ inch above patella, ¾ inch over patella, ½ inch over tibial tuberosity, and a ½ inch atrophy of the left thigh. Crucial and collateral ligaments appeared stable but the tests for the latter were questionable because of the incomplete extension available. Valgus strain passively produced medial knee pain as did any attempt to completely extend the knee. Tenderness was marked over the femoral end of the medial collateral ligament and moderate over the medial semilunar cartilage area. Clinical impression was strain or mild rupture of medial collateral ligament with medical semilunar cartilage injury. Arthrotomy was suggested. The claim was not allowed on the basis that x-ray examination on October 16, 1940 showed calcification above and medial to the medial femoral condyle interpreted as an old injury (Fig. 2).

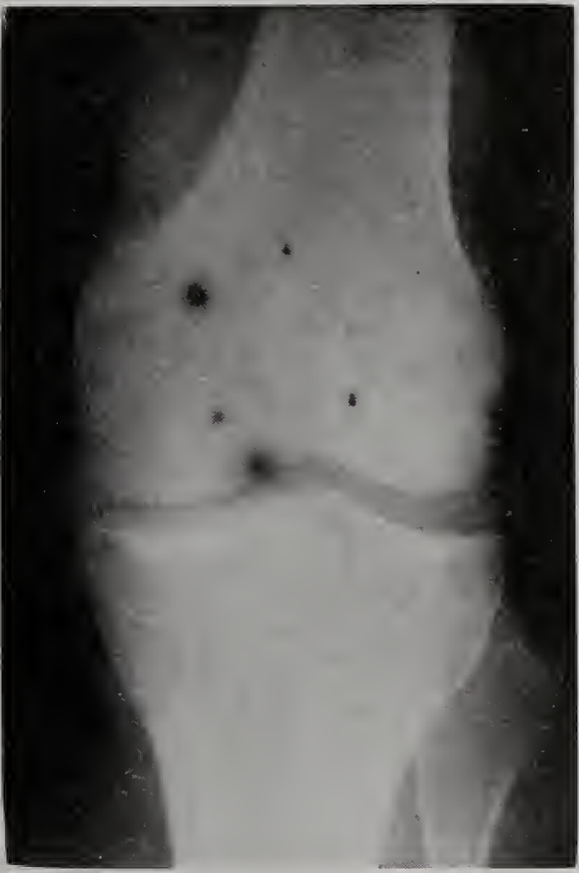

Fig. 2.

With only restricted activity, the knee gradually extended to 175 degree position, the ½ inch knee swelling persisted, and a tender palpable hard mass appeared over the medial femoral condyle 3 months after the injury. Final examination 4 months after injury showed a stable medial collateral ligament with some pain on tension, no tenderness, no thigh atrophy, but persistence of ½ inch swelling over the patella. X-ray examination showed fairly smooth outline of the calcifying area proximal to the medial condyle of the femur (Fig. 3). Symptoms were minor, there being slight pain after working several hours.

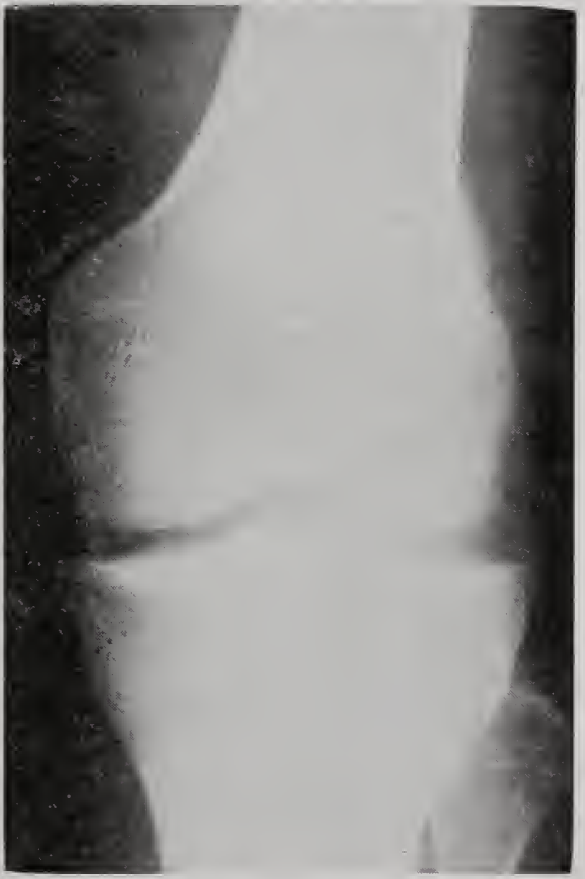

Fig. 3.

On the basis of the strain of the medial collateral ligament and the reasonably expected medial semilunar cartilage injury usually associated with this type of injury, 25% partial permanent disability of the leg was estimated to be present and the patient elected to close the case.

COMMENT

The development of the characteristic bony lesion of Pellegrini-Stieda's disease in this particular case occurred within 26 days after injury. This is one of the earliest appearances on record and serves to illustrate that appearance within three weeks can definitely relate itself to the accident as claimed rather than one considerably prior to that date. This is of great medico-legal importance.

If the process were the result of either chip fracture or periosteal tear, two of the advanced theories, the bony mass should be connected to the bony architecture of the femur which is seldom if ever noted on roentgenograms or in knees investigated surgically. Direct metaplastic change from connective tissue to bone is the most plausible theory(1). This has numerous analogies elsewhere in the body as the calcification noted in the "infantry-man's shoulder," in the "cavalry-man's myositis" of the adductors, in the gastrocnemius muscles of ballet dancers(2) and below the medial malleolus(3), all following trauma or traumata.

Surgical removal in the majority of reported cases has been followed by recurrence of the bony mass (4) (5). The plausible surgical indication would following only after improvement by conservative means ceased and the bony mass showed definite condensation and smooth outline.

SUMMARY

1. Pellegrini-Stieda's disease should be a common occurrence if all knee injuries were observed at length.
2. The process seems similar to myositis ossificans.
3. Treatment consists of early recognition and conservative methods.
4. Surgical intervention is in order only rarely, after conservative methods fail and after the process seems arrested; recurrence of bone formation is frequent.

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Sulfathiazole Ointment Effective for Impetigo Contagiosa

The average time required to cure 40 patients with impetigo contagiosa, a contagious inflammatory skin disease, by local application of sulfathiazole in ointment form was nine and one-half days as compared with from twelve to sixteen days required with the previous conventional treatment, L. H. Winer, M. D., and E. A. Strakosch, M. D., Minneapolis, report in The Journal of the American Medical Association for January 17.

The two physicians explain that among the pus producing infections of the skin, impetigo contagiosa is the most superficial and also the most common.

Physicians Needed for Red Cross Blood Procurement Program

The expansion of the blood procurement program under the auspices of the American Red Cross will require the services of physicians in a full-time capacity. In the near future there will be published a statement as to the number of physicians required, the age group, the professional qualifications and a list of those to whom they will be asked to make direct application. The physicians wanted for this service will be preferably those over 45 years of age or, if under 45 years of age, not physically fit for the armed services.

What Every Woman Doesn't Know—How To Give Cod Liver Oil

What Every Woman Doesn't Know is that psychology is more important than flavoring in persuading children to take cod liver oil. Some mothers fail to realize, so great is their own distaste for cod liver oil, that most babies will not only take the oil if properly given, but will actually enjoy it. Proof of this is seen in orphanages and pediatric hospitals where cod liver oil is administered as a food in a matter of fact manner, with the result that refusals are rarely encountered.

The mother who wrinkles her nose and "makes a face" of disgust as she measures out cod liver oil is almost certain to set the pattern for similar behavior on the part of her baby.

Most babies can be taught to take the pure oil if, as Eliot points out, the mother looks on it with favor and no unpleasant associations are attached to it. If the mother herself takes some of the oil, the child is further encouraged.

The dose of cod liver oil may be followed by orange juice, but if administered at an early age, usually no vehicle is required. The oil should not be mixed with the milk or the cereal feeding unless allowance is made for the oil which clings to the bottle or the bowl.

On account of its higher potency in Vitamins A and D, Mead's Cod Liver Oil Fortified With Percomorph Liver Oil may be given in one-third the ordinary cod liver oil dosage, and is particularly desirable in cases of fat intolerance.—Reader

Acute Peritonitis — Preoperative Immunization With Amfetin*

F. J. MURRAY, M. D.
Omaha, Nebr.

Amniotic fluid concentrate is usually thought of as an agent to prevent adhesions. We believe there is an indication for its use in patients who probably will not otherwise live long enough to develop adhesions.

In fact one of the advantages of amniotic fluid concentrate is its ability to produce adhesions. Adhesions may be constructive and destructive. Deaver(1) speaks of acquired adhesions as inflammatory and operative. If inflammatory, they may be constructive as well as destructive. Re-operation for destructive adhesions should only be done when organic obstruction exists.

Constructive adhesions may be described as a physiological response of the host to tide over the emergency. Herzler's(2) "The Peritoneum" is an excellent monograph on this subject. It may well be called the abdominal surgeon's Bible. He clarifies the physiopathology of the peritoneum as follows:

I. 1. Avenues of Absorption
    2. Areas of Absorption
    3. Rate of Absorption
    4. Site of Absorption
    5. Factors hastening Absorption
    6. Factors delaying Absorption

II. Pathologic Physiology of Peritoneum
    1. Absorption of blood
    2. Effects of Inflammation on absorption
    3. Effects of impaired circulation
    4. Effects of lessened peristalsis
    5. Effects of increased pressure

III. Sensibility of Peritoneum
    1. Normal nerves
    2. Parietal nerves
    3. Visceral nerves
    4. Inflamed nerves

IV. The great omentum

Therefore if amniotic fluid concentrate has any merit it should be to augment the normal physio-pathology in peritonitis. It cannot and should not take the place of diagnosis, technical skill, and sound surgical judgment.

Amniotic fluid† when introduced into the peritoneal cavity, produces a fibrinous exudate which is followed by an invasion of leucocytes(3). There is also a systemic leucocytosis often to 25,000 cells. The fibrinous exudate causes an obliteration of the peritoneal cavity in that the peritoneal surfaces become adherent. Later the fibrinous exudate is absorbed and the serosa and parietal peritoneum show no after effect of the reaction. This is comparable to the patient with a spreading peritonitis who responds with a plastic exudate in an effort to limit the spread. If recognized and conserved by the operator, the outcome is favorable. If inflammation and trauma produce a dense layer of non-absorbable fibrin, the result may be destructive adhesions.(3)

CASE REPORTS

I. APPENDICITIS

Our first experience with amniotic fluid concentrate was in an eight-year-old lad L. K., Immanuel Hospital 57739, July 13-24, 1936. He had been ill four days with acute pain in lower right quadrant followed by nausea and frequent vomiting for two days. He had had the usual amount of purgatives that most patients receive. There had been sudden relief of pain in the right side and the mother related it seemed to spread all over the abdomen. Temperature was 106, pulse 152, respirations 35, on entrance to hospital. The WBC, 9,800, was not in proportion to his clinical picture; although a count made at the office was 14,200. The abdomen was rigid throughout; breathing was shallow, and the skin showed a mottled cyanosis. Hippocratic facies and a blanched area about the mouth suggested the degree of his toxemia.

He was given 150 cc. amniotic fluid concentrate intraperitoneally by needle. Ten gr. acetyl salicylic acid was given per colon tube in the first portion of proctoclysis, to control the hyperpyrexia. He also received 5% glucose in normal saline solution in adequate amounts.

He appeared improved in 12 hours and in 20 hours the temperature was 102, pulse 120, respirations 30; rigidity of the abdomen, except in the lower right quadrant, and the anxious expression in the face had disappeared.

An appendectomy under ether anaesthesia was performed through a midrectus incision. Upon opening the peritoneal cavity, there was an escape of foul smelling gas and turbid serous fluid. The appendix had perforated in the middle third and the maximum reaction was shown by the exudate in the appendiceal wall and contiguous viscus. The adherent omentum indicated the effort to localize the inflammation to the lower right quadrant although it had apparently spread throughout the abdomen. Every effort was made to not interfere with the plastic adhesions. Local and dependent soft drains (3) were placed and the abdomen closed in the usual manner. 50 cc. of amniotic fluid concentrate was instilled in the peritoneal cavity through a catheter, the drainage tubes clamped for 12 hours to prevent escape. The temperature rose to 103 and dropped to 100 on the 1st post-operative day. The WBC rose to 19,800—pulse gradually decreased and the post-operative course thereafter was not unusual. He left the hospital on the 10th post-operative day with wound healed other than the site of the drainage fistula. He has had no untoward symptoms since then.

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*Read before the Omaha Mid-West Clinical Society, October, 1940.

Most of us have had similar cases in which the amniotic fluid has not been used with equally favorable results. However, the experience was such that I decided to use it in all cases that in my judgment would ordinarily give a grave or fatal prognosis.

II. ACUTE CHOLECYSTITIS

(a) Mrs. H. S., 60, Baltimore, became acutely ill with severe pain throughout her abdomen with maximum tenderness in the epigastrium. She had never suffered acute or gastric symptoms before. The epigastric pain shifted to the gall bladder area which was profoundly guarded with muscle spasm. Temperature 102, pulse 120, respirations 25 to 30, WBC 15,000. The patient was moved to the Immanual Hospital with tentative diagnosis of Acute Empyema of the Gallbladder. Operation was at first declined. Intravenous glucose was given, the operation was again advised and accepted at which time a Cholecystotomy under cyclopropane anesthesia was performed. After decompression of fundus of gallbladder by means of a needle and suction 600 cc. of black fluid removed. The fundus was gangrenous but not perforated. The ileum and omentum had become attached to gall-bladder by recent adhesions. A pear-shaped massive gallstone the size of a large orange was impacted in the cystic duct with the large end within the cavity of the gall-bladder. The stone was removed and a large drain placed into the gall-bladder extending well down in the cystic duct. The gangrenous area was excised and the tube anchored. The omentum was replaced and held with interrupted sutures. Fifty cc. amniotic fluid concentrate was introduced per catheter (Note: This should have been 200 cc. if there was any indication for its use).

The patient made a very smooth progress until the sixth post-operative day, when a severe ileus appeared due to severe peritoneal irritation. This subsided with continued medical management and she left the hospital on the twentieth day.

Subsequent reports indicate she has been free of symptoms since that episode.

(b) A farmer, J. C., 75221, age 54, entered Immanuel Hospital July 23, 1940, with acute abdominal pain for 24 hours although it was reported he had not felt well for several days. There was no previous history of abdominal symptoms. The pain started in the epigrastrium and then seemed to spread throughout the abdomen. On the evening he entered the hospital it seemed to shift to the upper right quadrant. Temperature 100, pulse 96, respiration 24. He was nauseated but did not vomit. The abdomen was distended and pain was severe and unbearable on attempted palpation. A flat plate of the abdomen reported "large amount of gas in left colon accompanied by a uniform density throughout the abdomen suggesting fluid in the peritoneal cavity." WBC 13,000. Our impression was acute obstruction of bowel.

Upon opening the peritoneal cavity there was escape of a large amount of sero-purulent fluid apparently arising from the right gutter. The appendix was mobilized with difficulty from the retrocecal position. When visualized it was obviously not the cause of peritonitis. After the ileum was separated from the inflamed surface of the gall-bladder, it showed a very acute reaction and perforation. There were numerous stones but no apparent obstruction.

Drainage of the friable gall-bladder was obtained and soft drain(4) placed in dependent areas, 50 cc. amniotic fluid concentrate was instilled and the abdomen closed in the usual way. Temperature 102, pulse and respiration satisfactory and patient appeared in excellent condition for 24 hours. From then on temperature, pulse, and respiration all mounted to 106-130-36 with a profound ileus.

An ileostomy was of no avail and the patient expired at the end of the 2nd post-operative day.

Comment: Again in retrospect 50cc of amniotic fluid concentrate is inadequate. Kimpton(4) has used it in 400 cases and cites a case in extensive plastic work in the abdomen in which he used 500cc. One-tenth of that amount certainly is inadequate in a massive peritonitis such as the above.

III. OBSTRUCTION OF THE BOWEL

We have not used amniotic fluid concentrate routinely in obstruction of the bowel. We have recently had four experiences that would seem to warrant its use.

(a) Wm. R., age 82, had previously had an obstruction of the bowel that disappeared under medical treatment. Three months ago he suffered a coronary occlusion, verified by electrocardiography. He complained of pain in the heart area which was referred down the left arm.

More recently he had acute pain in the left side of the abdomen with progressive distention and obstipation. X-ray at Immanuel Hospital showed several dilated loops with various fluid levels. This was interpreted as a low obstruction of the bowel verifying Dr. Brazer's diagnosis. We elected to treat him conservatively—Wangansteen Suction, turpentine stupes, proctoclysis and intravenous fluids. He was also given 100 cc. of amniotic fluid concentrate intraperitoneally anticipating the necessity of surgical intervention. The distention gradually disappeared as did the 'mass,' and the bowel function returned to normal. He returned to his home after nine days in the hospital.

COMMENT

Certainly one would not give the intraperitoneal medication credit for the outcome except that we have noticed a favorable effect on an adynaomic ileus. This at times, has in effect produced a moderate diarrhea.

(b) W. B., a 69-year-old white male, entered the

Douglas County Hospital October 4, 1940. There was no bowel movement for 7 days. He complained of moderately severe abdominal pain which was constant. He vomited for 3 or 4 days and the abdomen was distended until the skin glistened. Segments of the bowel and reversed peristalsis could be seen on the surface of the abdomen. He did not appear markedly toxic other than the abdominal pain. A flat plate of the abdomen reported "gross gaseous dilatation." of large and small bowel. Increase in density suggested fluid in the lower abdomen.

IMPRESSION

Obstruction of the bowel probably due to a volvulus. Under cyclopropane gas, a left rectus incision, revealed a torsion of a loop of descending colon. There was a second loop of the ileum that was also obstructed. An obstructive resection was made of the colon and the ileum decompressed by means of a needle and suction. 200 cc. amniotic fluid concentrate was instilled in the usual way. Approximately 4 or 5 feet of ileum was dilated and extremely hyperemic.

The post-operative course was not unusual. Decompression by means of Wangansteen Suction and Intravenous fluids were administered. Except for a slight unexplained cyanosis, he continued satisfactorily until the morning of the fifth post-operative day at which time he suddenly expired.

Autopsy revealed a severe broncho pneumonia. The lower two thirds of both lungs were devoid of air space. No evidence of emboli were found in the chest. The brain was not examined.

The peritoneal surfaces bore little or no trace of the picture presented at operation. The serosa appeared normal except where erosion had taken place. This was covered with a firm exudate.

(c) Clyde McW., age 28, County Hospital, presented a similar clinical picture, except that the obstruction was more recent. At operation a segment of ileum was found gangrenous from rotation on an attachment to an old appendiceal abscess. He had had an operation for a perforated appendix in 1933. Several fecaliths were found in the bed of the abscess at this time.

An obstructive resection was made and amniotic fluid concentrate instilled. The clamps were removed on the 6th day. He has a temporary ileostomy that is functioning satisfactorily at present. Clamp and short-circuiting with later superficial repair will be carried out later.

IV. PERFORATED GASTRIC ULCER

Peritonitis whether it be chemical or septic has responded very well in our experience to amniotic fluid concentrate. We have used it in six such cases with no fatality

(a) R. B., age 27, Methodist Hospital, had had epigastric pain 3 to 4 hours after eating for 6 months. It was relieved by eating and soda. On September 18, 1938, they were to have a late Sunday dinner. Before eating he had severe acute pain in the pyloric area. The pain spread throughout the abdomen with maximum intensity in the upper right and left quadrants. He also complained of pain in the tip of the left shoulder. He was moved to the hospital where a flat plate showed gas beneath the left diaphragm.

Abdominal section under Nitrous Oxide ether anaesthesia revealed a perforation about 2-3 mm. in diameter on the wall of the lower segment of the stomach. A stream of gastric contents was expelled with each inspiration. The opening was closed with interrupted silk sutures and omental reenforcement after scarifying the serosa. 200 cc. of amniotic fluid concentrate was instilled intraperitoneally and soft drains placed in the upper right and left quadrants, pelvis, and right lower quadrant.

When seen the following morning, he was reading the paper. There was no ileus and minimal pain. He left the hospital on the 12th day. Subsequent check-up showed acidity controlled by dietary and alkali regime.

CONCLUSIONS AND SUMMARY

1. Adhesions may be constructive and/or destructive.

2. Constructive adhesions present a physiopathologic process.

3. Amniotic fluid concentrate, when introduced intraperitoneally, causes a fibrinous exudate on inflamed surfaces. This is followed by leucocytosis and later absorption of the exudate.

4. It augments the inherent effort of the normal peritoneal response.

5. It should not replace careful diagnosis, technical ability, or surgical judgment.

6. Representative case reports have been listed.

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†Amniotic Fluid Concentrate is manufactured and furnished to the profession by the Eli Lilly Company under the trade name Amfetin. The writer gratefully acknowledges their generosity in furnishing the product for use in many of the cases.

The case of a child with generalized peritonitis and acute appendicitis in whom an operation was inadvisable, whose recovery is attributed to injections of sodium sulfathiazole into the vein and of sulfapyridine directly into the abdominal cavity, is reported in The Journal of the American Medical Association for January 24 by Julius Gottesman, M. D., and Harold Goldberg, M. D., New York.

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Vol. 27 February No. 2

THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical sevices and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

THE CALL FOR MILITARY SERVICE

There seems to be some uncertainty among doctors regarding the functions and operation of the Procurement and Assignment Service. In the January issue this Journal published a comprehensive article by Dr. Sam F. Seeley, executive officer of the Service. The article explained the various aspects of the organization and it would be well for those in doubt to study carefully the contents of this discussion.

In principle the Procurement and Assignment Service aims to satisfy the medical needs of our armed forces and of our governmental agencies through procurement of physicians, with the minimum disturbance to communities; and the assignment of physicians on their enlistment to posts where their professional talents and skill may be utilized to greatest advantage.

The blank published in the Journal of the American Medical Association December 27, and in the January number of the Nebraska State Medical Journal, requests that physicians signify their intention for voluntary enlistment and to state whether they are physically able to assume military duty. Item 10 in substance asks whether the physician is essential to the needs of the community. This question was inserted with the view of protecting the civilian population from a breakdown in medical care.

The "essential" list will be submitted by a committee from the State Medical Association, and according to Dr. Seeley, this roster will be fully respected in the evaluation of applicants for voluntary enlistment. A physician considered essential to the community, regardless of age, after due official acknowledgment of his intentions, will be requested to remain at home and continue to serve his clientelle.

An important point to remember is that those within the draft age, unless their "essential" status had been certified and acknowledged by the Procurement and Assignment Service, remain at the mercy of their local draft boards subject to call without commission.

PREVENTION OF SYPHILIS IN THE NEWBORN

Sixty thousand syphilitic infants are born in the United States each year. Twenty-five thousand still births or miscarriages annually are traceable to syphilis. When it is recalled that our knowledge of "the great imitator" is comprehensive: we have reliable means for diagnosis and effective measures for therapy, the figures constitute a serious challenge to the profession as a whole and to each physician individually. The challenge is threefold, and we may as well recognize it and meet it on that premise.

The fact that many women do not present themselves for examination early in pregnancy is satisfactory enough only as an explantation of the evil. It is our solemn duty to popularize the importance of timely prenatal care of all pregnant women regardless of their social or economic station in life. Medical societies, health departments, and physicians personally must consider it their responsibility for awakening and maintaining community consciousness on the urgency for adequate prenatal medical care.

As a corollary to the first premise it must be recognized that no amount of care during this period approaches adequacy without a serologic study of the expectant mother's blood. "From the physician's viewpoint," Roth states tersely in a recent article(*) "we should regard every pregnant woman as syphilitic until proved otherwise. This suspicious attitude will bear fruit in the most unexpected cases." The venipuncture no longer calls for blushing and hedging and explaining a dilemma, for there is indeed no dilemma. The taboo has been lifted with benefit to both physician and patient.

The body defense mechanism enhanced by pregnancy may easily hide clinical manifestations of syphilis, especially if the infection is of recent origin. 30-40% of pregnant women with positive serologic reactions evince no clinical signs or symptoms of the disease. "A clear skin, a good family background, a report of well being, the general appearance of culture, all these are no barrier to the spirochete."

The treatment of syphilis today is so simplified that no physician is justified in considering it an ordeal. "Treatment during pregnancy," to quote the same author, should be based on principles that "it is for the child primarily and for the mother secondarily; the aim in early treatment is to prevent infection of the fetus. After the fifth month treatment must be directed to treatment of the disease in the infant. The treatment must be continuous until the time of delivery."

*Journal of Ohio State Medical Association, Jan., 1942.

ANNOUNCEMENTS

SCIENTIFIC EXHIBITS AT THE ANNUAL SESSION

Space is now being allotted for scientific exhibits at the Annual Session, Hotel Fontenelle, Omaha, May 4-7. Members who desire to participate in these exhibits must apply to Dr. F. Lowell Dunn immediately. Write or wire Dr. Dunn, 737 Medical Arts Bldg., Omaha.

Your dues are now due. Send your check to the secretary of your County Society. Your Association needs you this year as never before. So do you need the Association. And since no organization can function without funds, please do not delay payment of your dues.

The National Conference on Medical Service, formerly the Northwest Regional Conference, will hold its Sixteenth Annual Meeting at the Palmer House, Chicago, Illinois, Sunday, February 15th.

Dr. Harold M. Camp of Monmouth, Illinois, is President and Dr. J. D. McCarthy of Omaha, Nebraska, Secretary.

This meeting precedes that of the Council on Medical Education and Hospitals and that of the Federated Boards. Physicians from eighteen to twenty-four states in the Union interested in problems which have to do with postgraduate, legislative, economic, social and military problems as they relate to the profession at large will attend. A goodly number of those attending the meetings of the Council on Medical Education and Hospitals and of the Federated Boards will also attend the Conference.

All physicians in good standing are cordially invited to attend this meeting. There is no registration fee.

The program is as follows:

NATIONAL CONFERENCE ON MEDICAL SERVICE

Sixteenth Annual Meeting

Sunday, February 15, 1942

PROGRAM

9:00 a. m. Registration.

9:30 a. m. The Relation of the Physician to Military, Civilian and Industrial Health.

1. Procurement and Assignment of Physicians for Military Service, Sam F. Seeley, M. D., Executive Officer, Procurement and Assignment Service, Washington, D. C.
2. Civilian Defense.
   - a. Civilian.
   - b. Hospitals.
   - c. Emergency Medical Squads, R. C. Buerki, M. D., Chairman of Subcommittee of the Advisory Board of the Medical Division, Office of Civilian Defense, Philadelphia.
3. Industry's Problem in Maintaining Adequate Medical Care.
   - a. Non-Defense Projects, John R. Nilsson, M. D., Chief Surgeon, Union Pacific Railroad, Omaha, Nebraska.
   - b. National Defense Projects, Carl M. Peterson, M. D., Secy. Council on Industrial Health, A. M. A., Chicago, Ill. (Tenative).
4. The Wartime Program of the American Medical Association, Morris Fishbein, M. D., Editor, Journal of the American Medical Association, Chicago, Illinois (Tentative).

11:30 a. m. The Role of the State Medical Society and State and City Departments of Health in National Defense.

1. State Medical Society, W. P. Wherry, M. D., President Nebraska State Medical Association, Omaha, Nebraska.
2. State Department of Health, W. L. Bierring, M. D., State Health Officer of Iowa, Des Moines, Iowa.
3. City Department of Health, Herman N. Bundesen, M. D., President, Board of Health, Chicago, Illinois.

12:15 p. m. Dinner.

1:30 p. m. President's Address, Harold M. Camp, M. D., Monmouth, Illinois.

1:45 p. m. Report of Nominating Committee; Annual Election of Officers; Selection of Place for 1943 Meeting.

2:00 p. m. Rejected Selectees and Their Rehabilitation for Active Military Service.

1. Local and Induction Board Examinations, Samuel J. Kopetzky, M. D., New York City.
2. One Million Rejected; What Percent May Be Salvaged?
   - a. By Personal Physician or Dentist Prior to Induction, George Baehr, M. D., New York City (Tentative) and J. R. Blayney, D. D. S., Chicago, Illinois.
   - b. Following Induction, L. D. Redway, M. D., Ossining, New York.

3:30 p. m. The Role of the Medical, Dental, Nursing Schools and Hospitals in Anticipating the Acceleration of Training.

1. The Need for a Trained Personnel to Care for the Health of the Military, J. R. Darnall, M. D., Lt. Colonel, Medical Corps, Washington, D. C.
2. Status of Pre-Medic, Medical and Dental Students, Internships and Residencies During the Emergency, General Lewis B. Hershey, Director of Selective Service, Washington, D. C.
3. What the Medical, Dental and Nursing Schools May Do to Hasten the Graduation of Their Respective Students, Fred C. Zapffe, M. D., Chicago, Illinois (Tentative).

PROVISION OF MEDICAL OFFICERS FOR MILITARY SERVICES

At the time of the Pearl Harbor incident, Dec. 7, 1941, the Army was short approximately fifteen hundred physicians to bring all existing installations up to war strength. Requisition was made on the Procurement and Assignment Service immediately to secure such physicians under the age of 36. The number of physicians in the service was adequate to meet all professional demands in the care of patients but was not sufficient to provide physicians for all organizations on a war strength basis. Therefore the Procurement and Assignment Service on December 18 authorized the publication of application blanks for enrollment with a view to meeting the immediate needs of the Army. These blanks have been circulated by The Journal of the American Medical Association and by many state organizations. Some confusion has arisen in that many physicians interpreted the enrollment blank as another call for every physician in the United States to register. Actually, only those ready to volunteer for immediate service were wanted and only the applications of those capable of meeting specified qualifications are being forwarded.

The continued registration of all MEN UNDER 36 WHO ARE IMMEDIATELY AVAILABLE for military duty in the Army or the Navy will suffice to meet the immediate needs of the military services, at least until completion of the roster system now being established in the office of the Procurement and Assignment Service.

Within sixty days the Procurement and Assignment Service expects to publish the physical requirements for service with every military, governmental, industrial and civil agency utilizing the services of physicians, dentists and veterinarians. Each physician, dentist or veterinarian will be asked to make a self analysis of his physical condition, so that he may himself determine with which of the agencies he is physically qualified to serve. Shortly thereafter the Procurement and Assignment Service expects to mail a new questionnaire and enrollment form. Each professionally qualified person will be asked to state, first, that he will volunteer his services in the interest of the national emergency; second, to state his first, second, third and fourth choice of the agencies which he will be willing to serve for the duration of the war. A list will be furnished of every military, governmental, industrial and civil agency requiring the services of physicians, dentists or veterinarians.

On self analysis of his physical condition, each man will be thus able to determine whether his physical fitness qualifies him for duty with the requisitioning agencies. On receipt of the enrollment form the Procurement and Assignment Service will issue a certificate of enrollment and a numbered button which will certify that the recipient has offered his services in the interests of the national defense. Thus, those who remain at home in an essential capacity will derive the satisfaction of knowing that they have offered their utmost to the national emergency and that this offer has been formally recognized by the Procurement and Assignment Service.

Sam F. Seeley, Executive Officer,
Morris Fishbein, Chairman
Committee on Information.
Procurement and Assignment Service.

NEWS and VIEWS

A public health service has been established in Saunders County under the sponsorship of the State Department of Health, with funds from the United States Public Health Service.

Harold Peterson, secretary of the Board of Control since November, 1937, is the new superintendent of the Institution for Feebleminded at Beatrice. He succeeds Dr. J. A. Burford who recently resigned.

According to the Columbus Telegram, the city council on December 18 accepted a check for over a thousand dollars from the mid-Nebraska Iron Lung Association. This money is to be spent for a "crash" unit to be used throughout mid-Nebraska territory when needed.

Lincoln is actively engaged in organizing a blood plasma bank. The project is aided by the Junior Chamber of Commerce, which recently asked for volunteer donors for the bank.

Nebraska City recently had an immunization campaign for diphtheria and smallpox for school children.

There has been an increase in the incidence of smallpox, diphtheria, whooping cough, scarlet fever, gonorrhoea, and syphilis, according to the November records of the State Health Department. In issuing the figures for these diseases, Dr. Miller stated that the children's diseases mentioned above were widely scattered throughout the state. He also thought that the large number of cases of venereal diseases (gonorrhoea 91, syphillis 139) was due to better reporting by physicians and to mobilization of men in defense areas.

COMMITTEE FOR THE STUDY OF ARTHRITIS

The Committee has considered an attempt to classify the type of joint disease one of the most important aspects in handling a problem involving joint diseases. Proceeding from that point it desires to focus some attention to the problem of gout. This disturbance has been commonly considered to be very rare in America in recent years, but many men interested in the subject have found the opposite situation to exist. This fact seems to illustrate as well as any the desirability of considering several types of joint disease when the necessity for handling such a problem arises.

1. Clinically, manifestations which could be due to gout are after hard to prove but response to adequate doses of colchicine in three days or less gives valuable circumstantial evidence.

2. Gouty manifestations precede the ap-

pearance of tophi by years and may be temporary and disappear spontaneously.

3. Gout is not a disturbance limited to the wealthy who overindulge.

4. X-ray evidence is frequently not present early.

5. The big toe is only one of many joints affected by the gouty process.

6. Joint pain in the knee, ankle, heel following an operative procedure or use of liver extract or insulin if rapid in onset may be gout.

7. Joint pain, often monoarticular, out of proportion to other findings may be gouty.

W. W. Waddell, Chairman.

MEDICAL CORPS

CIVILIAN DEFENSE

The Medical Division of the U. S. Offices of Civilian Defense has issued the second bulletin of its official series of instructions for emergency medical care of the civilian population in war emergencies, "Equipment and Operation of Emergency Medical Field Units." The bulletin explains the duties of local chiefs of Emergency Medical Service, describes the operation of Casualty Stations and First Aid Posts and lists the minimum equipment for Emergency Medical Field Units, organization of which was described in the first bulletin, "Emergency Medical Service for Civilian Defense," issued in August, 1941.

The Office of Civilian Defense recommends that all defense councils adopt the plans as set forth in these bulletins. Uniformity will make it possible for adjacent communities to pool or exchange their resources, and it is also desirable because of priorities in materials and manufacturers. All equipment recommended conforms with that of the Medical Department of the U. S. Army, the bulletin points out.

The field casualty service projected by the Medical Division of the Office of Civilian Defense will be made up of Emergency Medical Field Units derived from hospitals in the community. These units will work in Casualty Stations set up at a predetermined site some distance from the scene of a disaster. The Casualty Stations will care for persons with minor injuries and those suffering from nervous shock or hysteria until they may return to their homes or to temporary shelters. An important part of the work of these stations will be to keep records of patients treated.

From the Casualty Stations medical teams may be sent closer to the disaster to set up First Aid Posts in which severely injured persons may receive emergency treatment before they are sent to hospitals. Here casualties will be classified according to the seriousnessof the injuries and directed to Casualty Stations or hospitals as their condition requires. The instructions emphasize the importance of tagging all casualties immediately, giving all possible information as to their identity, their injuries and the treatment given.

Equipment for the medical teams who will work in First Aid Posts has been worked out to provide in easy portable form the essentials for emergency treatment. Replacements will be furnished by Casualty Stations, which will have on hand larger stores of supplies.

Recommendations to All Physicians with Reference to the National Emergency

I. MEDICAL STUDENTS.

A. All students holding letters of acceptance from the Dean for admission to medical colleges and freshmen and sophomores of good academic standing in medical colleges should present letters or have letters presented for them by their deans to their local boards of the Selective Service System. This step is necessary in order to be considered for deferment in Class II-A as a medical student. If local boards classify such students in Class I-A, they should immediately notify their deans and if necessary exercise their rights of appeal to the Board of Appeals. If, after exhausting such rights of appeal, further consideration is necessary, request for further appeal may be made to the State Director and if necessary to the National Director of the Selective Service System. These officers have the power to take appeals to the President.

B. Those junior and senior students who are disqualified physically for commissions are to be recommended for deferment to local boards by their deans. These students should enroll with the Procurement and Assignment Service for other assignment.

C. All junior and senior students in good standing in medical schools, who have not done so, should apply immediately for commission in the Army or the Navy. This commission is in the grade of Second Lieutenant, Medical Administrative Corps of the Army of the United States, or Ensign H. V. (P) of the United States Navy Reserve, the choice as to the Army or Navy being entirely voluntary. Applications for commission in the Army should be made to the Corps Area Surgeon of the Corps Area in which the applicant resides and applications for commission in the Navy should be made to the Commandant of the Naval District in which the applicant resides. Medical R. O. T. C. students should continue as before with a view of obtaining commissions as First Lieutenants, Medical Corps, upon graduation. Students who hold commissions, while the commissions are in force, come under the jurisdiction of the Army and Navy authorities and are not subject to induction under the Selective Service Act. The Army and Navy authorities will defer calling these officers to active duty until they have completed their medical education and at least 12 months of internship.

II. RECENT GRADUATES.

Upon successful completion of the medical college course, every individual holding commission as a Second Lieutenant, Medical Administrative Corps, Army of the United States, should make immediate application to the Adjutant General, United States Army, Washington, D. C., for appointment as First Lieutenant, Medical Corps, Army of the United States. Every individual holding commission as Ensign H. V. (P), U. S. Navy Reserve, should make immediate application to the Commandant of his Naval District for commission as Lieutenant (J. G.) Medical Corps Reserve, U. S. Navy. If appointment is desired in the grade of Lieutenant, (J. G.) in the regular Medical Corps of the U. S. Navy, application should be made to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

III. TWELVE MONTHS INTERNES.

All internes should apply for a commission as First Lieutenant, Medical Corps, Army of the United States, or as Lieutenant (J. G.), United States Navy or Navy Reserve. Upon completion of 12 months internship, except in rare instances where the necessity of continuation as a member of the staff or as a resident can be defended by the institution, all who are physically fit may be required to enter military service. Those commissioned may then expect to enter military service in their professional capacity; as medical officers; those who failed to apply for commission are liable for military service under the Selective Service Acts.

IV. HOSPITAL STAFF MEMBERS.

Internes with more than 12 months of internship, assistant residents, fellows, residents, junior staff members, and staff members under the age of 45. fall within the provisions of the Selective Service Acts which provide that all men between the ages of 20 and 45 are liable for military service. All such men holding Army commissions are subject to call at any time and only temporary deferment is possible, upon approval of the application made by the institution to the Adjutant General of the United States Army certifying that the individual is temporarily indispensable. All such men holding Naval Reserve commissions are subject to call at any time at the discretion of the Secretary of the Navy. Temporary deferments may be granted only upon approval of applications made to the Surgeon General of the Navy.

All men in this category who do not hold commissions should enroll with the Procurement and Assignment Service. The Procurement and Assignment Service under the Executive Order of the President is charged with the proper distribution of medical personnel for military, governmental, industrial, and civil agencies of the entire country. All those so enrolled whose services have not been established as essential in their present capacities will be certified as available to the Army, Navy, governmental, industrial, or civil agencies requiring their services for the duration of the war.

V. ALL PHYSICIANS UNDER 45.

All male physicians in this category are liable for military service and those who do not hold commissions are subject to induction under the Selective Service Acts. In order that their service may be utilized in a professional capacity as medical officers, they should be made available for service when needed. Wherever possible, their present positions in civil life should be filled or provisions made for filling their positions, by those who are (a) over 45, (b) physicians under 45 who are physically disqualified for military service, (c) women physicians, and (d) instructors and those engaged in research who do not possess an M. D. degree whose utilization would make available a physician for military service.

Every physician in this age group will be asked to enroll at an early date with the Procurement and Assignment Service. He will be certified for a position commensurate with his professional training and experience as requisitions are placed with the Procurement and Assignment Service by military, governmental, industrial or civil agencies requiring the assistance of those who must be dislocated for the duration of the national emergency.

VI. ALL PHYSICIANS OVER 45.

All physicians over 45 will be asked to enroll with the Procurement and Assignment Service at an early date. Those men who are essential in their present capacities will be retained and those who are available for assignment to military, governmental, industrial or civil agencies may be asked by the Procurement and Assignment Service to serve those Agencies.

The maximal age for original appointment in the Army of the United States is 55. The maximal age for original appointment in the Naval Reserve is 50 years of age.

All inquiries concerning The Procurement and Assignment Service should be sent to The Executive Officer, 5654 Social Security Building, 4th and Independence Avenues, SW, Washington, D. C., and not to individual members of the Directing Board or of committees thereof.

EXAMINATIONS

American Board of Obstetrics and Gynecology

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted at Atlantic City, N. J., by the entire Board, from Wednesday, June 3, through Tuesday, June 9, 1942, prior to the opening of the annual meeting of the American Medical Association.

Application for admission to Group A, Part II, examinations must be on file in the Secretary's Office not later than March 1, 1942. It will greatly facilitate the work of the Board if applications are filed as far as possible in advance of the closing date for their receipt.

Formal notice of the time and place of these examinations will be sent each candidate several weeks in advance of the examination dates.

Candidates for reexamination in Part II must make written application to the Secretary's Office before April 15, 1942.

As previously announced in the Board booklet, this fiscal year (1941-1942) of the Board marks the close of the two groups of classification of applicants for examination. Thereafter, the Board will have only one classification of candidates, and all will be required to take the Part I examination.

The Board requests that all prospective candidates who plan to submit applications in the near future request and use the new application form which has this year been inaugurated by the Board. The Secretary will be glad to furnish these forms upon request, together with information regarding Board requirements. Address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

American Congress on Obstetrics and Gynecology

In this time of stress, there should be a definite interest in the welfare of the mothers and babies of the nation. The Committee which is sponsoring the next American Congress on Obstetrics and Gynecology, to be held in St. Louis on April 6-10, 1942, represents the only organization outside of governmental bodies which has attempted to unite the efforts of voluntary and other agencies to carry out the widely disseminated plans for the care of women and children. Opportunity for the presentation of advances in obstetric and gynecologic knowledge will be afforded to the many groups interested in these problems at a nation-wide gathering of this kind. The Directors of the project believe that, notwithstanding the war situation, the Congress should be held at the stated time and are proceeding with their plans to make of this an outstanding gathering. Further details of the program will be communicated as these are made available. Inquiries may be addressed to the Central Office, 650 Rush Street, Chicago, Illinois.

George W. Kosmak, M. D.
Chairman, Committee on
Medical Publicity.

DEATHS

McIntyre, Backus M., Winside, born in New York State in 1871, came to Nebraska in 1894, and registered at Creighton University School of Medicine in 1901. Located in Winside in 1906 and remained there until his death on November 8, 1941. He is survived by his widow and a son, John.

Longacre, Chester Horton, born in 1883, attended the University of Louisville, Kentucky Medical school from which he graduated in 1908. Practiced in Eagle and Beaver Crossing until he came to Lincoln last summer. Died December 8, 1941; surviving are his widow and three children.

BIRTHS

To Dr. and Mrs. Martin Anderson, formerly of Hastings, now at Camp Leonard Wood, a daughter, November 29, 1941.

To Dr. and Mrs. Horace V. Munger of Lincoln, a son, December 11, 1941.

MARRIAGES

Dr. Frederick Martin Graham, Rochester, Minn., to Miss Elizabeth Braasch, Rochester, in Rochester, November 15, 1941.

Dr. Edith Eason of Chicago to Dr. J. W. Madura of Chicago, at North Bend, Nebr., December 20, 1941.

WOMAN'S AUXILIARY

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Lincoln, Nebr.
Publicity Chairman—Mrs. W. H. Morrison
513 No. 41st Ave., Omaha, Nebr.

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

Lancaster County Medical Auxiliary met on January 5th at the home of Mrs. David Hilton. Our members enjoyed a sandwich-coffee luncheon, followed by a short business meeting.

The afternoon was planned and taken charge of by our program committee, headed by Mrs. Paul Royal. The afternoon was devoted to bridge, the first afternoon party of this kind which our group has had.

Mrs. C. Fred Ferciot, our President-Elect of the Woman's Auxiliary to the Nebraska State Medical Association, left last Monday for Bremerton, Washington, with Dr. Ferciot, who had been ordered to report there for active duty with the Navy.

Dr. Paul Royal and Dr. Allan Campbell, are in this same unit, and all will report for duty at Bremerton on January 12th.

Dr. and Mrs. Johann R. Marx of the Hastings State Hospital staff at Ingleside, presented a musical program of violin-piano selections at a meeting of the Auxiliary to the Adams County Medical Society Jan. 7.

The Auxiliary, after having dinner at Ingleside with members of the medical group, held a separate meeting at which Mrs. O. A. Kostal presided.

The remainder of the evening was spent at cards.

The Cass County Medical Auxiliary met December 15th at the home of Mrs. O. E. Liston in Elmwood.

Mrs. M. C. Green of Omaha, president of the State Medical Auxiliary and Mrs. Morton of Lincoln were guests.

The Auxiliary members and the Medical Society met for a joint dinner at the Methodist church.

Each group met separately for a business meeting.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The regular meeting of the Omaha-Douglas County Medical Society was held Tuesday, December 9, 1941, in the Medical Arts Auditorium and called to order at 8 p. m. by President Clarke.

Owing to the scheduled speech of the President of the United States at 9 p. m. the regular order of business was changed, and the meeting was opened with Dr. W. P. Wherry's introduction of the guest speaker, Dr. Oliver E. Van Alyea, otolaryngologist of Chicago, Ill., who read a paper on "Acute Nasal Infection" illustrated with slides. Dr. Van Alyea concluded his talk at 8:45, at which time President Clarke called for the reading of the minutes of the regular meeting November 25 and the Council meeting December 9. The resolution, as presented to the Council at its noon meeting, regarding cooperation of this society with the Civilian Defense organization of Omaha and Douglas County, was read by Dr. Robert Schrock. It was suggested that this resolution be presented by Dr. C. M. Wilhelmj, chairman of a committee of five physicians to represent this Society in this project, at a joint meeting called by Mr. W. C. Fraser, district defense chairman. It was moved and seconded that the minutes stand approved as read.

It was moved and seconded that Drs. John C. Follman and Frank J. Klabenes, whose applications had been endorsed by the Council, be elected to membership in this Society.

At this time there was discussion of Dr. Van Alyea's paper by Drs. Henske, Holovtchiner, Rubnitz and Jahr.

All remained to hear the radio address of the President of the United States and meeting adjourned at 9:25 p. m.

Members of the Lancaster County Medical Society and Lincoln Hospital staff members, held a Clinical-Pathological Conference on December 2, 1941, with forty-two present. Dr. J. M. Woodward in the chair. In the absence of the secretary, Dr. E. S. Wegner was appointed secretary pro-tem.

Conference was presented by members of the Lincoln General Hospital Staff. First paper, presented by Dr. Glenn Harvey, was the case of a 45-year-old woman with a large liver, found in examination after a taxi cab accident. Liver became larger and patient developed ascites. Later surgey was instituted at which time masses were found in the liver. Diagnosis: "Primary carcinoma of the liver." Dr. Marshall Neely gave the review of the autopsy findings. There was no evidence of cirrhosis.

Dr. R. J. Stein reviewed the case of a 60-year-old female who had had a tumor removed from the breast with a diagnosis of carcinoma. Later returned to the hospital with a nodular enlargement of the thyroid and basal of plus 29 and plus 32. Thyroidectomy was performed and patient left hospital in two weeks. She was well for one week, then noticed a painful lump above left clavicle. Later developed paralysis of the lower extremities and other central nervous system findings. At autopsy all metastases were below the level of the diaphragm and also involving the cord. Diagnosis: "Carcinoma." Questions and discussion followed by Drs. F. L. Rogers, O. A. Reinhard, E. W. Hancock and G. W. Covey.

The last case was presented by Dr W. Allan Campbell. This patient had been a stone-cutter for many years, and on admission to the hospital the findings were practically limited to the chest, (except for clubbed fingers). There were tumor masses in the chest wall and various areas of the scalp, extremities, etc. X-ray Diagnosis: Silicosis with a super-imposed pneumonia. Autopsy revealed multiple fluctuating skin lesions, pericarditis, abscess of left kidney, abscesses of liver meningitis, abscesses of the brain substance, silicosis and pyemia. Discussion followed by Drs. G. W. Covey, E. W. Hancock, O. A. Reinhard, W. A. Campbell, J. M. Neely and Henry Blum.

Dr. D. S. Rausten demonstrated models of pathological lesions and asked for the cooperation of the society members in obtaining clinical material.

A special business meeting was called at which time the application of Dr. H. V. Munger was read resulting in his election to membership.

Meeting adjourned at 9:30 p. m.

The annual meeting of the **Lancaster County Medical Society** was held on December 16, 1941, with forty-six members attending. President J. M. Woodward in the chair. The minutes of the last meeting stood approved as read.

The following reports were given:

Treasurer—Dr. W. W. Carveth.

Historian—Dr. H. W. Orr.

Librarian—Dr. H. W. Orr.

Secretary—Dr. F. D. Coleman.

Custodian—Dr. Fritz Teal.

Delegates to State Meeting—Drs. F. L. Rogers, Chairman.

F. S. A. Medical Aid—Dr. H. E. Harvey, Chairman.

Medical Preparedness—Dr. F. F. Teal, Sr., Chairman.

Necrology—Memorium to Dr. E. M. Hansen read by Dr. Grace Loveland.

Red Cross Nursing Service—Dr. E. E. Angle.

Program—Dr. W. Allan Campbell, Chairman.

All reports accepted as read.

It was moved by Dr. Morgan and seconded by Dr. Campbell, that the society pay the expenses of Dr. E. E. Angle to the next annual meeting of the American Medical Association. Dr. Angle had served the society as secretary for three years and this is the society's way of saying "thank you."

The election of officers for 1942 was as follows:

President—Dr. B. A. Finkle.

Vice President—Dr. G. H. Misko.

Re-elected Secretary—Dr. F. D. Coleman.

Re-elected Treasurer—Dr. W. W. Carveth.

Delegate to State Meeting—Dr. E. W. Hancock.

Alternate to State Meeting—Dr. E. B. Reed.

R-elected to Board of Censors—Dr. A. D. Munger.

Meeting adjourned at 9:15 p. m.

The Phelps County Medical Society met December 29, 1941, with Dr. Andrews of Minden, Nebraska, councilor for the Tenth District present who gave an interesting talk on Medical Defense, explaining why many more doctors must be called from Nebraska.

The following officers were elected for 1942:

President—F. A. Brewster, Holdrege.

Vice President—G. W. Clark, Bertrand.

Secretary-Treasurer—W. A. Sheck, Holdrege.

Delegate—Theo. A. Peterson.

Alternate—H. A. McConahay.

Censors—F. W. Brewster, three years; Theo. A. Peterson, 2 years; Robt. Best, 1 year.

Dr. Robert Best spent ten days in December at Billings Hospital in Chicago, doing graduate work in Ear, Nose and Throat.

The **Adams County** Medical Society held its regular monthly meeting on the evening of January 7, 1942, at the Hastings State Hospital, Ingleside, Nebraska, with President E. C. Foote, presiding.

After dinner and short business meeting an interesting paper was presented by Dr. C. M. Foote of Hastings, Nebraska. The subject of his paper was "Glaucoma." Etiology, symptomatology, pathology, treatment and prognosis were discussed. Symptomatology and therapeusis were given the most attention.

Nebraska Society of Medical Technologists

The annual fall meeting of the **Nebraska Society of Medical Technologists** was held Friday and Saturday, December 5th and 6th, 1941, at the University of Nebraska, College of Medicine, Omaha, Nebraska.

The program December 5, 1941, was as follows:

Registration: 34 medical technologists from throughout the state were present.

"Biochemical Determinations of the Inorganics,"

(Continued on page xvi)

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FRACTURES AND TRAUMATIC SURGERY — Two Weeks Intensive Course will be offered starting March 9th. Informal Course available every week.
GYNECOLOGY—Two Weeks Intensive Course will be offered starting April 6th. Clinical and Diagnostic Courses every week.
OBSTETRICS—Two Weeks Intensive Course will be offered starting April 20th. Informal Course every week.
OTOLARYNGOLOGY—Two Weeks Intensive Course will be offered starting April 6th. Clinical and Special Courses starting every week.
OPHTHALMOLOGY—Two Weeks Intensive Course will be offered starting April 20th. Five Weeks Course in Refraction Methods starting March 9th. Informal Course every week.
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SOCIETIES

(Continued from page 76)

Roundtable Discussion—By Dr. Violet Wilder, University of Nebraska, College of Medicine, Omaha.

"Biochemical Determination of the Vitamins," by Dr. Sergius Morgulis, Professor of Biochemistry, University of Nebraska, College of Medicine, Omaha.

"Normal Blood," by Dr. John S. Latta, Professor of Anatomy, University of Nebraska, College of Medicine, Omaha.

"Leukemias" by Dr. G. W. Covey, Lincoln.

The program December 6, 1941, was as follows:

Registration: 33 medical technologists were present.

"Streamlining Nutrition for you," by Dr. Ruth Leverton, Department of Home Economics, University of Nebraska, College of Agriculture, Lincoln.

"Laboratory Evidence of the Effect of Atmospheric Changes on Hospital Patients," by Dr. J. D. LeMar, Assistant Professor of Public Health, University of Nebraska, College of Medicine, assisted by Arnold Myrabo.

"Report of the University of Minnesota continuation Study Course," by Harriet Paige, M. T., Clarkson Hospital, Omaha.

"Public Health Importance of Leptospirosis," by Dr. O. F. Reihart, Omaha.

"America's First Contribution to Civilization?", by Dr. C. M. Wilhelm, Dean of College of Medicine, Creighton University, Omaha.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. C. E. Slagle of Alliance, was recently a patient in the Mayo Clinic at Rochester.

Dr. Joseph P. Swoboda of Omaha, was elected president of the South Omaha Kiwanis Club.

Dr. Charles D. Eby of Leigh, addressed the Leigh Commercial Club on "Recent Medical Progress."

Dr. Leonard J. Owen of Lincoln, addressed the Y. M. C. A. Men's Club on "Cancer" early in January.

Dr. L. M. Stearns recently announced his retirement from practice in Kearney for the duration of the war.

The interesting item quoted below is reprinted from the Humboldt Standard of December 11. It offers food for both thought and pride.

Dr. James K. Newman of Omaha, celebrated his ninety-third birthday on January 5. The doctor is still in active practice, with an office located on Leavenworth Street near Fortieth.

The Humboldt Standard, with the assistance of others, will conduct a campaign to raise funds for the "Novak Memorial Monument." Those who wish to contribute to this fund, may bring or send their remittance to this office.

(Continued on page xviii)

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HUMAN INTEREST TALES

(Continued from page xvi)

The late Dr. C. E. Novak of Humboldt, is rememrounding community; not only because he was a good citizen and doctor, but for the many sacrifices he made for the people of this community.

There is no monument in the cemetery to mark the grave of this good man, but many feel that there should be. So many people have expressed their willingness to contribute a sum for the purpose of buying a monument to mark his grave, that such a fund has been started.

Dr. Novak was born in Pawnee City, but moved to Humboldt with his parents, and graduated from the Humboldt high school in 1899. He graduated from the Rush medical college in Chicago. After completing his medical course, he practiced in Chicago two years, and in DuBois two years, then returning to his home town, Humboldt, where he practiced medicine the remainder of his days.

As a physician and surgeon he was regarded as one of the best in the state. He was true to the traditions of the country doctor—always ready to answer a sick call at any time, regardless of hours or weather conditions, and at times went days without rest or sleep, as the relief of suffering was always uppermost in his mind. He died a comparatively young man, and it may be truly said that he gave his life for others. Financial gains were secondary with Dr. Novak. He trusted his patients and depended on them to come to his office and pay for the services he had rendered, and seldom asked for pay. Many did pay, but a great many more did not and as a result of this he did not accumulate wealth.

Annual Assembly, Hotel Fontenelle, Omaha, May 4 to 7, 1942

THE NEBRASKA STATE MEDICAL JOURNAL

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Procurement and Assignment Service for Physicians, Dentists and Veterinarians

The Directing Board of the Procurement and Assignment Service, through the Committee on Information, has drawn up the following information regarding the organization and functions of the Procurement and Assignment Service. This article is designed to answer questions which may arise in the minds of individual physicians, dentists and veterinarians concerning the activities of the Procurement and Assignment Service.

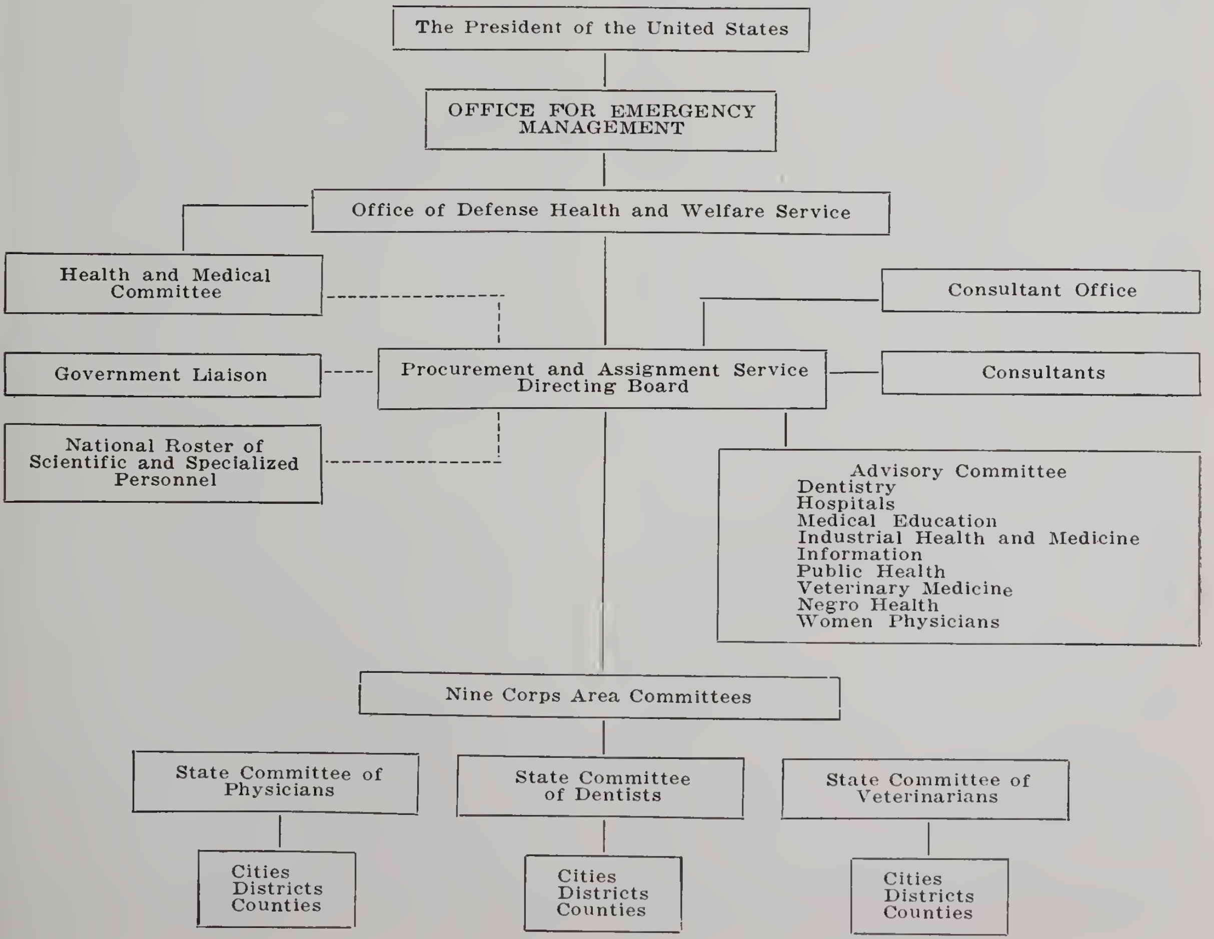
The corps area officers and the state chairmen in the respective professions will be available for consultation and advice.

For the Directing Board.

S. F. SEELEY, M. D., Major, M. C., U. S. A.,
Executive Officer,
Procurement and Assignment Service.

The accompanying chart shows the organization of the Procurement and Assignment Service.

ORGANIZATION OF THE PROCUREMENT AND ASSIGNMENT SERVICE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State Committee of Physicians
State Committee of Dentists
State Committee of Veterinarians
Cities Districts Counties
Cities Districts Counties
Cities Districts Counties

State Chairmen and Committees—The state chairmen and the state committees are advisory to the corps area committees and to the central office. To the state committees and also to the county, district and local committees will be referred especially questions concerning the essential character of such services as a physician, dentist or veterinarian may be rendering, thus determining his availability. They will also familiarize themselves with the functions of the Procurement and Assignment Service and thus be able to advise those in their community concerning its work.

THE NATIONAL ROSTER

The National Roster of Scientific and Specialized Personnel was created by Executive action in July of 1940 as an office within the Executive Office of the President to be jointly supervised by the National Resources Planning Board and the United States Civil Service Commission. Two primary functions were assigned to the Roster: first, the formualtion of as complete a list as possible of all of the United States scientifically and professionally trained citizens; and, second, the development of proper procedures for the most effective utilization of the skills of these citizens in connection with defense and other governmental and national needs. In pursuance of this directive, the Roster has established a completely analytical punch-card list of the names, locations, and qualifications of the country's specially trained individuals in more than fifty strategic scientific and professional fields. Because of the fact that the American Medical Association was engaged in developing its own roster, the National Roster did not undertake to include any but a small specialized group of the general medical profession. It became necessary therefore to work out an agreement of cooperation between the National Roster and the Procurement and Assignment Service so that the latter could have the benefit of the Roster's experience and facilities in maintaining up to date lists of physicians, dentists and veterinarians. By special action of the boards of trustees of the American Medical Association, the American Dental Association and the American Veterinary Medical Association, all punch card files in the possession of these associations were made available to the National Roster.

By these joint efforts, the Procurement and Assignment Service will have available in the National Roster at Washington complete records of all material submitted by the professions. The professions in turn will have the benefit of material collected through the roster for their own punch card files at their national headquarters.

A consultant committee to the National Roster for medicine includes Drs. Morris Fishbein, R. G. Leland, and Olin West.

INFORMATION UTILIZED IN THE PROCUREMENT AND ASSIGNMENT SERVICE

Questionnaire.—American Medical Association: Beginning in June, 1940, the American Medical Association circulated a questionnaire to the physicians of the country. The information from this questionnaire was tabulated in a punch card system which has been made available to the National Roster. Additional information concerning physicians was developed by the Division of Medical Sciences of the National Research Council and other cooperating agencies.

SPECIAL ENROLLMENT FORM AND QUESTIONNAIRE FOR PROCUREMENT AND ASSIGNMENT SERVICE

The Procurement and Assignment Service, cooperating with the National Roster of Scientific and Specialized Personnel, has prepared special questionnaires for circulation to every physician, dentist and veterinarian in the United States. This questionnaire will come directly to all physicians, dentists and veterinarians as soon as possible after the National Registration on Febr. 16, 1942. Every physician, dentist and veterinarian, regardless of age, sex, physical condition, citizenship or employment, should fill out and return the enrollment form and the questionnaire. Those physicians, dentists and veterinarians who have been commissioned in any United States service previous to the receipt of the enrollment form and questionnaire should so indicate under the heading "remarks" on the enrollment form.

The original questionnaire and enrollment forms previously circulated by the American Medical Association, the American Dental Association and the American Veterinary Medical Association are being utilized to meet requisitions from the armed services and other agencies, until the National Roster is complete and the Procurement and Assignment Service is working routinely. The additional information secured by the special questionnaire now to be described will bring up to date the facts necessary to place each physician, dentist and veterinarian in the work for which he is best qualified.

Roster Questionnaire—The questionnaire, as developed, includes space on which the physician, dentist or veterinarian will supply the usual data regarding name, address, date and place of birth, citizenship, marital status, race and sex, school of graduation, previous military service in the United States or in the armed forces of other countries, membership in the reserve corps or commissions in any branch of government service. Any additional information regarding special aptitudes, such as knowledge of aviation, radio or cryptanalysis, which might be of value, knowledge of foreign languages and foreign travel, will also be included. Again, it should be emphasized, this information is sought to supplement information previously supplied on questionnaires. It is recognized that the status of any physician, dentist or veterinarian may have changed materially since the time when previous questionnaires were submitted. The new questionnaire will also be tabulated in a special punch card system which will be coordinated with the punch card system previously mentioned.

In the new questionnaire, opportunity is also given to state in detail appointments held in various local, industrial, state or governmental agencies, in civil practice, and in education and research. Specialization is recognized by appropriate designations which coordinate with certification of specialists by the certifying boards and also with appointments on the staffs of hospitals and other indications of special practice.

The method of practice, whether individual, in partnership or in groups is indicated. Finally an opportunity is given to every physician, dentist and veterinarian to indicate his preference as to the type of service which he will be capable of rendering to the United States during the war.

The Enrollment Form—On the enrollment form which comes with the questionnaire the physician, dentist or veterinarian voluntary enrolls himself with the Procurement and Assignment Service. He indicates his first, second, third and fourth preferences of the military, governmental, industrial or civil categories that may require his assistance.

Announcement will be made repeatedly in medical, dental and veterinary medical publications of the time when the circulation of the enrollment form and the questionnaire begins. When you receive your enrollment form and questionnaire, PLEASE ACT PROMPTLY. Those who fail to receive an enrollment form and questionnaire are requested to write to the National Roster of Scientific and Specialized Personnel, 916 G Street N. W., Washington, D. C., within six weeks after announcement has been made that the circulation has begun.

CERTIFICATE AND INSIGNIA

Physicians, dentists and veterinarians who enroll with the Procurement and Assignment Service will receive a numbered certificate indicating that they have made themselves available and will be privileged to wear insignia indicating that such enrollment has been made.

Procedure to Meet Present Needs

The present Army and Navy needs are for physicans under 36 years of age. Those under 36 desiring immediate commission may write now to the Procurement and Assignment Service, 601 Pennsylvania Avenue N. W., Washington, D. C. Their letters will be treated as applications and those who are qualified will receive proper application forms with view of commission in the Army or the Navy. All physicians over 36 and all dentists and veterinarians should await the receipt of the enrollment forms.

METHODS OF ACTION OF THE PROCUREMENT AND ASSIGNMENT SERVICE

By authority of the President, the Procurement and Assignment Service receives requests for personnel from the following governmental agencies:

MEDICAL

United States Army Medical Corps.
United States Navy Medical Corps.
United States Public Health Service.
United States Veterans Administration.
United States Civil Service Agencies.
St. Elizabeth's Hospital (Washington, D. C.), Resident Staff and Interns only.
United States Indian Service.
Panama Canal Service.
Office of Civilian Defense (full time).

The Procurement and Assignment Service is also charged with the stimulation of voluntary enrollment having due regard for the overall health needs of the nation, including the personnel of civilian institutions.

When a request is received from a federal agency for medical, dental or veterinary personnel, the names of those who are qualified to meet the specifications established by the requisitioning agency, who are available and who have indicated by enrolling with the Procurement and Assignment Service, their willingness to apply for a commission or employment are supplied by the National Roster, utilizing the punch card system previously described. These names are arranged in lists by states. A copy of each list is forwarded to the Consultant Office of physicians, dentists or veterinarians respectively, where each is made more accurate by the elimination of the names of those who do not qualify in view of the special information held in the Consultant Office. These lists are then referred to the state chairmen, who make a decision as to the immediate availability of the physicians, dentists or veterinarians concerned. Such a step is necessary because the availability of the individual may have changed in the period between the return of the official questionnaire in March, 1942, and the time when the physician, dentist or veterinarian is notified of the need for his services. The lists are then forwarded by the state chairman to the Procurement and Assignment Service in Washington.

From these lists the central office obtains the names of those individuals who have thus been found qualified and available.

In summary, the procedure is as follows:

1. The Surgeon General requisitions needed personnel from the Central Office of the Procurement and Assignment Service.

2. The National Roster prepares an appropriate list of names from the National Roster of Scientific and Specialized Personnel.

3. The National Roster sets aside the cards from the file of those available.

4. This list is forwarded to the Consultant Office, Procurement and Assignment Service.

5. The Consultant Office forwards the names to the chairmen of relevant state committees of the Procurement and Assignment Service.

6. These chairmen forward to the central office the lists they received, with names of unavailable (essential) persons indicated.

7. The Central Office mails application forms and authority for physical examination to the qualified and available proposed applicants.

8. Each applicant applies for "final type" physical examination at the nearest Army post.

9. The examiner sends the report to the Surgeon General's Office.

10. The applicant returns his completed application blank and supporting papers direct to the Central Office of the Procurement and Assignment Service.

11. The central office forwards the application form and the supporting papers direct to the Surgeon General.

12. The Surgeon General's Office joins the completed application blank, supporting papers and the corresponding report of physical examination.

13. The Surgeon General's Office determines whether or not to recommend the applicant to the Adjutant General on the basis of physical and professional qualifications.

14. The Adjutant General notifies the applicant that he has or has not been appointed.

15. The Central Office of the Procurement and Assignment Service is notified whether the applicant has been, or has not been, appointed.

16. The names of those not commissioned are again placed in the file of the National Roster so that the persons affected may be available for other service.

NOTE—After the applicant has sent his application form and supporting papers to the Central Office of the Procurement and Assignment Service, he may expect his further correspondence to be carried on with the Surgeon's General's Office or the Adjutant General's Office .

PROVISION OF PHYSICIANS AND DENTISTS FOR THE UNITED STATES NAVY MEDICAL AND DENTAL CORPS

When a request is received from the Uniteded States Navy Medical or Dental Corps for personnel, the same procedure will be followed in securing lists of names as has already been described in the previous section regarding the provision of personnel for the Army. The lists of names received from the state chairman will then be forwarded by the Procurement and Assignment Service to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C. The Bureau of Medicine and Surgery will then conduct negotiations with the physicians and dentists concerned through the commandants of their respective naval districts. Should a physician or dentist apply directly to a naval commandant for commission in the United States Naval Medical or Dental Corps, the procedure outlined is as follows:

1. The Bureau of Medicine and Surgery requisitions personnel from the central office of the Procurement and Assignment Service.

2. An appropriate list of names is prepared from the National Roster of Scientific and Specialized Personnel.

3. The National Roster sets aside the cards bearing these names from the file of those available.

4. The list is forwarded to the Consultant Office, Procurement and Assignment Service.

5. The Consultant Office forwards the names to the chairman of relevant state committees of the Procurement and Assignment Service.

6. These chairmen forward to the central office the lists they received, with names of unavailable (essential) persons indicated.

7. The central office forwards the names of qualified and available persons to the Bureau of Medicine and Surgery.

8. The Bureau of Medicine and Surgery conducts the subsequent negotiations with the proposed applicants.

9. The Bureau of Medicine and Surgery notifies the central office of the Procurement and Assignment Service which applicants have been and which have not been appointed.

10. The names of those not commissioned are again placed in the file of the National Roster, so that the persons affected may be available for other services.

When an applicant applies directly to any Army installation for commission in the Army Medical or Dental or Veterinary Corps, he is referred to the Procurement and Assignment Service. When an applicant applies to any Naval Commandant for commission in the U. S. Medical or Dental Corps, his application is sent to the Bureau of Medicine and Surgery and such names are cleared through the Procurement and Assignment Service before the commissions are granted.

UNITED STATES PUBLIC HEALTH SERVICE

The Surgeon General of the United States Public Health Service has issued the following circular to all District Directors and Medical Officers in Charge concerning new appointment procedure for physicians and dentists:

February 14, 1942.

1. The Procurement and Assignment Service within the Office of Defense Health and Welfare Services has the responsibility for assisting in the procurement and assignment of physicians and dentists in such a manner as to best serve the over-all health and medical needs of the country. It is essential that the personnel policy of the Public Health Service be consistent with the major purposes of the Procurement and Assignment Service.

2. It is desired that applications be solicited from qualified physicians and dentists for commission in the reserve corps of the U. S. Public Health Service. The expansion of the reserve corps of the Public Health Service is necessary to serve two major purposes:

(a) The creation of a pool of qualified public health personnel to safeguard essential civilian health services and at the same time to be available for immediate, though temporary, active duty in the event of some major public health emergency.

(b) The procurement of sufficient numbers of qualified physicians and dentists to enable the Public Health Service to carry on its normal and wartime activities.

3. In order to serve these two major purposes, it will be necessary to recruit into the reserve of the Public Health Service physicians and dentists who come within the two following categories:

(a) Those who are now engaged in public health work and who by reason of special training and experience occupy strategic positions in their present civilian capacities. Such personnel would be expected to remain on inactive status with the Public Health Service, except in the event of a major disaster, in which case they would be subject to immediate, though temporary, active duty.

(b) Those who are professionally qualified and also available for immediate active duty in the Public Health Service for such periods of time as the exigencies of the service may determine.

4. Applications from physicians and dentists relating to commissions in the reserve of the Public Health Service will be processed in the following manner: On receipt of an application by the office of the Surgeon General, the application forms and all supporting papers, including the report of physical examination, will be transmitted with a definite recommendation of the Surgeon General to the Procurement and Assignment Service. The Procurement and Assignment Service will in turn certify to the Surgeon General as to the availability of the individual for appointment. In the case of public health personnel occupying strategic positions in civilian posts, the criterion of availability for commission would rest largely upon the fact that the individual occupies a strategic position, and therefore should remain as long as practicable on an inactive status. In the case of personnel to be called to immediate active duty, the criterion of availability would be based upon the ability of the community to spare the services of the individual. Upon receipt from the Procurement and Assignment Service of notice of clearance, indicating that the applicant is available for a commission in the reserve of the Public Health Service, the appointment will be completed in the usual manner.

5. The above procedure does not apply to the recruiting of individuals for the regular corps of the Public Health Service, or to the appointment of interns or doctors certified by the Civil Service Commission, or to the appointment of sanitary engineer officers in the reserve.

6. When the Public Health Service is without acceptable applications from physicians and dentists for filing vacancies, the Surgeon General will request the Procurement and Assignment Service for the names and qualifications of persons available to fill such vacancies. When decision has been reached as to the selection or nonselection of such persons, the Surgeon General will advise the Procurement and Assignment Service.

7. The Procurement and Assignment Service has

given its endorsement to the procedure outlined above.

THOMAS PARRAN,
Surgeon General.

Approved:
PAUL V. McNUTT,
Administrator.

UNITED STATES CIVIL SERVICE COMMISSION

In accordance with the recommendation of the Medical Director, the United States Civil Service Commission has approved a procedure in connection with the recruitment of qualified persons whereby the Commission will cooperate with the Procurement and Assignment Service and deal direct with this service in its recruitment program.

1. The necessary application forms, all properly executed, are to be filed by the applicant with the United States Civil Service Commission at Washington, D. C. Information concerning necessary qualifications is to be obtained from the announcement of the examination. Application forms and announcements may be obtained from the United States Civil Service Commission, Washington, D. C.

2. Applications received under announcements of examinations for physicians, dentists and veterinarians will be rated by the United States Civil Service Commission.

3. The names of those applicants who have receive an eligible rating will be submitted to the Procurement and Assignment Service, with the view of determining whether or not such applicants are essential in their present positions and localities.

4. The names of those persons who have been designated by the Procurement and Assignment Service as being essential in their present positions and localities will not be certified and such persons will be notified by the United States Civil Service Commission that they cannot be certified in view of the action taken by the Procurement and Assignment Service.

5. The names of those persons who have been designated as nonessential will be certified in routine manner to fill the personnel needs of the various government agencies under civil service rules and regulations.

MEDICAL, DENTAL AND VETERINARY EDUCATION

To meet the needs of the nation for a continuing supply of trained medical, dental and veterinary personnel for the armed forces and for civilian needs, and to maintain the standards of education which have prevailed in these fields, the medical, dental and veterinary professions initiated an effort as far back as 1940 to provide for deferment of students in qualified medical, dental and veterinary schools from induction under the provisions of the Selective Service acts. Through the cooperation of the Director of Selective Service, the following memorandums now prevail:

Deferments of Professional Students and Instructors—The Selective Service System, Washington, D. C., on January 12, 1942, issued the following supplement to Memoranda (I-62), (I-91), (I-99) and (I-150) Occupational Deferment of Engineering, Chemical, Physics, Medical, Dental Students and Instructors (III):

The attention of local boards is again invited to the necessity of seriously considering for deferment students in certain specialized professional fields in which dangerously low levels of manpower are found to exist. This memorandum is in addition to, and does not rescind those previously issued which apply to students in other critical fields.

Subsequent to the declaration of war, local Selective Service agencies have in many instances proceeded to classify registrants without regard to the fact that they are in training or preparation for activities the maintenance of which is essential to the national health, safety or interest and war production. This is particularly true in cases of engineering, chemical, physics, medical and dental students.

Admittedly there is an overlapping of the military and civilian requirements of a nation at war; however, it must be borne in mind that the one is dependent on the other. It is estimated that the expanding army will eventually require doctors and dentists in numbers heretofore unknown. They will not be available if those student who show reasonable promise of becoming doctors and dentists are inducted prior to becoming eligible for commissions.

War industries are undergoing a hitherto unknown expansion. Aeronautical, civil, electrical, chemical, mining, metallurgical, mechanical and radio engineers together with physicists and chemists are essential to insure a sufficient flow of material for the armed forces, and industry must look to the engineering, chemical and physics students now in training to meet their present and future requirements.

It is equally important that instructors in these fields be seriously considered for occupational deferment. Shortages of qualified instructors are known to exist. The educational institution employing the instructor should be requested to file DSS Form 42A in all cases in which deferment is sought.

In considering student deferment cases, certain local boards are requiring the execution of DSS Form 42A in addition to the affidavit of the college or university contained in Bulletin No. 10 issued by the American Council on Education. DSS Form 42A should not be required when the American Council on Education affidavit has been submitted.

Local boards will be informed when the manpower requirements necessary to the national health, safety or interest and war production become static. Until such time, the policy set forth in the Memoranda to All State Directors I-62, I-91, I-99 and I-150 remains in force.

LEWIS B. HERSHEY, Director.

All students holding letters of acceptance from deans for admission to dental and veterinary colleges and all students of good academic standing in these colleges should present letters or have letters presented for them by their deans to their local boards of the Selective Service System. All premedical students who have letters of acceptance from deans for admission to medical colleges but who have not actually matriculated should present these letters. This step is necessary in order to be considered for deferment in class II-A as a medical, dental or veterinary student. If local boards classify such students in class I-A, they should immediately notify their deans and, if necessary, exercise rights of appeal to their local boards of appeals. If, after exhausting such rights of appeal, further consideration is necessary, request for further appeal may be made to the state directors and if necessary to the national director of the Selective Service System. These officers have the power to take appeals to the President.

On January 28, 1942, the following memorandum (I-363) was released by the Director of Selective Service to all state directors of the Selective Service System.

OCCUPATIONAL DEFERMENTS OF MEDICAL DOCTORS, DENTISTS AND DOCTORS OF VETERINARY MEDICINE

Information previously distributed by this headquarters clearly indicates an overall shortage of medical doctors, dentists and doctors of veterinary medicine in the nation. Since war was declared, the shortage of these professional men has become acute. It is now manifest that every qualified doctor, dentist and veterinarian must serve where he can render the greatest professional service to the nation.

In order to accomplish this purpose, the President, by Executive Order, has formed the Procurement and Assignment Service, under the Office of Defense Health and Welfare Services. This Service was formed primarily for the purpose of gathering and making available information with respect to the supply of qualified practitioners in the fields of medicine, dentistry and veterinary medicine, with a view of securing the most effective allocation of medical manpower as indicated by the requirements of the armed forces, civilian needs and industrial medicine.

To work with the headquarters of this Service in Washington, there is being organized a committee for each Corps Area in the Continental United States. Each committee will consist of five doctors, two dentists and one veterinarian. The committees have been accepted as advisers to the nine Corps Area Surgeons, to the Naval District Surgeons and to the Regional Medical Officers of the Office of Civilian Defense and will operate not only through the subdivisions of the medical, dental and veterinary association but also with the profession at large in securing information and giving advice.

When considering the classification of any registrant who is a qualified medical doctor, dentist, or doctor of veterinary medicine, the Director of Selective Service desires that local boards through the State Director, shall consult the Procurement and Assignment Committee of the Corps Area for information as to the availability of qualified medical doctors, dentists and doctors of veterinary medicine in the community. This information shall be considered by the local board in determining the registrant's classification. The Executive Order referred to in no way affects the authority of the Selective Service System to classify registrants. The procedure has been established for the purpose of making such information available to local boards.

For the convenience of the State Director and the local boards, the names and addresses of the Chairmen of the Nine Corps area committees of the Procurement and Assignment Service are listed:

First Corps Area: Dr. W. G. Phippen, Salem, Mass.

Second Corps Area: Dr. A. W. Booth, Elmira, N. Y.

Third Corps Area: Dr. A. M. Shipley, Baltimore, Md.

Fourth Corps Area: Dr. Edgar Greene, Atlanta, Ga.

Fifth Corps Area: Dr. E. L. Henderson, Louisville, Ky.

Sixth Corps Area: Dr. Charles H. Phifer, Chicago, Ill.

Seventh Corps Area: Dr. Roy W. Fouts, Omaha, Nebr.

Eighth Corps Area: Dr. Sam E. Thompson, Kerrville, Texas.

Ninth Corps Area: Dr. Charles A. Dukes, Oakland, Calif.

LEWIS B. HERSHEY, Director.

DEFERMENT FOR STUDENTS

The Secretary of the Navy recently approved a change in Navy regulations whereby it is now possible for persons who have been accepted for entrance in the next entering class and all medical students in class A medical colleges and approved dental colleges to be appointed in the United States Naval Reserve with the commission Ensign H-V (P), provided they meet the physical and other requirements for such appointment. It should be noted that this applies not only for persons holding letters of acceptance and freshmen and sophomore students in these medical and dental schools but also juniors and seniors.

The Secretary of War has recently approved a change in Army Regulations which authorizes the commission as Second Lieutenant, Medical Administrative Corps, Army of the United States, of all students in class

A medical colleges and to those persons who have matriculated in these colleges, providing they meet the physical and other requirements for such appointment. It should be noted that this opportunity includes freshmen and sophomores as well as juniors and seniors.

For commission in the Navy, application forms may be obtained from the dean's office or from some one designated by him, or from the commandant of the naval district in which the applicant resides. Further information may be obtained from the office of the commandant of any naval district.

For commission in the Army, applications should be made through the office of the dean to the corps area surgeon of the corps area in which the applicant resides.

Students of the Medical Reserve Officers' Training Corps should continue as before, with a view of obtaining commissions as First Lieutenant, Medical Reserve Corps, on graduation.

Students who hold commissions come under the jurisdiction of the Army and Navy authorities and are not subject to induction under the Selective Service acts. The Army and Navy authorities will defer calling these officers to active duty until they have completed their medical education.

All students who are disqualified physically for commissions should apply for deferment in accordance with the instructions already referred to.

RECENT GRADUATES

After successful completion of his medical college course every individual holding commission as Second Lieutenant, Medical Administrative Corps, Army of the United States, should make immediate application to the Adjutant General, United States Army, Washington, D. C., for appointment as First Lieutenant, Medical or Dental Corps, Army of the United States. Every individual holding a commission as Ensign H-V (P), U. S. Naval Reserve, should make immediate application to the commandant of his naval district for commission as Lieutenant (j. g.), Medical or Dental Corps Reserve, U. S. Navy. If appointment is desired in the grade of Lieutenant (j. g.) in the regular Medical Corps or Dental Corps of the U. S. Navy, application should be made to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

The Public Health Service contacts senior and junior medical students for the purpose of interesting the students in applying for positions as interns, following the successful completion of the school year. In addition the students that are accepted are offered comissions in the reserve, to be inactive during the period of their internship and to become active following the successful completion of their internship.

TWELVE MONTHS INTERNS

All interns should apply for commissions as First Lieutenant, Medical or Dental Corps, Army of the United States, or as Lieutenant (j. g.), United States Navy or Naval Reserve. After completion of twelve months' internship, except in rare instances in which the necessity of continuation as a member of the staff or as a resident can be defended by the institution, all who are physically fit may be required to enter military service. Those commissioned may then expect to enter military service in their professional capacity as medical or dental officers.

HOSPITAL STAFF MEMBERS

Interns with more than twelve months of internship, assistant residents, fellows, residents, junior staff members and staff members under the age of 45 fall within the provisions of the Selective Service acts.

All such men holding Army commissions are subject to call at any time. Temporary deferment is possible if an application made by the institution to the Adjutant General of the United States Army certifying that the individual is temporarily indispensable is approved.

All such men holding Naval Reserve commissions are subject to call at any time, at the discretion of the Secretary of the Navy. Temporary deferments are granted only on approval of applications made by the institution to the Surgeon General of the Navy.

THOSE UNDER 45

All male physicians, dentists or veterinarians under 45 are liable for military service. That their services may be utilized in a professional capacity as officers, they should be made available through the facilities of the Procurement and Assignment Service. Wherever possible, their present positions in civil life should be filled or provisions made for filling their positions, if necessary, by (a) those who are over 45, (b) those under 45 who are physically disqualified for military service, (c) women and (d) instructors and those engaged in research who do not possess M. D., D. D. S., or D. V. M. degrees but whose utilization would make available physicians, dentists or veterinarians for military service.

THOSE OVER 45

All physicians, dentists or veterinarians over 45 should enroll with the Procurement and Assignment Service. Every possible effort will be made to retain those who are essential in their present capacities. Those who are available for assignment to military, governmental, industrial or civil agencies may be asked by the Procurement and Assignment Service to serve those agencies.

MAINTAINING EDUCATIONAL, INDUSTRIAL AND CIVILIAN MEDICAL, DENTAL AND VETERINARY SERVICES

Faculties of Schools—Authorities in medical, dental and veterinary schools have forwarded lists to the Procurement and Assignment Service containing the names of members of their faculties who are considered essential to a proper continuation of medical, dental and veterinary education. These lists will be consulted in determining those who are considered essential. Should the status of any individual listed as essential for teaching be changed, the Procurement and Assignment Service should be immediately notified by the college authorities.

Research—The burden of proof as to the essential character of research set forth as a reason for deferment rests on the individual and the employing institution. Efforts will be made to maintain without interruption the progress of scientific research, particularly that related to the war effort.

Civil Practice—The procurement and Assignment Service will do its utmost to maintain a supply of medical, dental and veterinary services for all industrial and civilian needs. Already the state and county medical, dental and veterinary societies, under the direction of state chairmen, are assembling lists of physicians, dentists and veterinarians considered essential in the positions they now occupy.

ADVISORY COMMITTEES AND LIAISON OFFICERS

On recommendations of the Directing Board of the Procurement and Assignment Service, the Office of Defense, Health and Welfare Services has appointed the following advisory committees and consultants to the Procurement and Assignment Service: Dentistry, Veterinary Medicine, Hospitals, Women Physicians, Industrial Health and Medicine, Medical Education, Negro Physicians and Public Health.

These committees are advisory to the Directing Board in establishing policies regarding the availability and utilization of personnel in their respective fields.

THE COMMITTEE ON INFORMATION

With its consultants, the Committee on Information is charged with disseminating information to all physicians, dentists and veterinarians and to the public in order that they may be kept informed of the progress of the Procurement and Assignment Service, and in order to secure their cooperation in its activities (appendix 1).

LIAISON OFFICERS

Each of the governmental agencies utilizing the services of physicians, dentists and veterinarians has appointed a liaison officer to advise and assist the Procurement and Assignment Service (appendix 1).

SPECIAL INFORMATION

Specialization—In general, determination as to special qualifications of persons entering the medical services of the Army and Navy depends on the classification of specialists by advisory committees established through the Division of Medical Sciences of the National Research Council and certifications of boards in the various specialties. Moreover, the recommendations of state and county committees and the statements of the individuals on questionnaires will be taken into consideration. On questions of dental and veterinary specialization, the official organization will be consulted.

Citizenship—Regulations of the United States Army and Navy do not permit the commissioning of officers who are not citizens of the United States. A commission in the United States Navy requires full citizenship for a period of ten years, and the ten year period to have been spent in the United States. Similarly, all federal agencies utilizing physicians, dentists and veterinarians now demand citizenship as a prerequisite to such enrollment.

Persons who do not possess full citizenship papers but who have been licensed to practice in any of the states of the United States should enroll with the Procurement and Assignment Service so that their services may be utilized when the opportunity arises. They should, however, do their utmost to continue in their eforts to secure citizenship to enable them to qualify for positions that they are not able to fill because of lack of these essentials.

Physicians, dentists or veterinarians who have their first citizenship papers but who do not have a license to practice and who are under the age of 45 come within the provisions of the Selective Service acts and may be inducted in the capacity of enlisted men. When this occurs, these should make known their special capacities, so that their services may be utilized to the fullest extent in the medical departments of the Army and Navy in an enlisted capacity.

College Qualifications — Commissions in the medical departments of the United States Army and Navy and in federal agencies are granted only to graduates of schools recognized by such agencies. For physicians, twelve months of internship or its equivalent is required.

Those wishing further information concerning the qualifications necessary to appear for examination leading to a commission in the Army or Navy or to service with any other governmental service should apply directly to such agency.

Women Physicians, Dentists and Veterinarians—The United States Army and Navy do not permit the commissioning of women physicians, dentists or veterinarians. However, all should enroll with the Procurement and Assignment Service so that they may be recommended to such positions as are available in other federal agencies, industry or civilian capacities in which their services may be required.

The needs will no doubt be particularly acute in local, state and national institutions, in teaching and staff positions and in special occupations with the Office of Civilian Defense in the care of women and children under emergency conditions.

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IN THIS ISSUE

FOR the information of its readers, the Journal has condensed copy issued by the American Medical Association on Procurement and Assignment. This information appears on page 77.

IN accordance with the request of the Committee on Cardiovascular Diseases, this issue of the Journal is devoted to a symposium on heart disease. The Committee decided this year to stress the examination of the heart. Accordingly we submit papers by Drs. Barry, Cloyd, Traynor and Hunt discussing individual phases of the cardiac examination.

THERE is also presented in this issue an article on "Sounds Which appear in the Cardiac Diastole." This paper was presented by Dr. Arthur L. Smith of Lincoln, at the last Annual Assembly in Lincoln.

DRS. Willis E. Brown and Earl Sage present an analysis of cardiac diseases complicated by pregnancy.

Do not forget the Assembly in the Fontenelle Hotel,
May 4-7, Omaha.

Sounds Which Appear in the Cardiac Diastole*

ARTHUR L. SMITH, A. M., M. D., F. A. C. P.
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Ordinarily we consider only two heart sounds, but in recent years intensive study through the development of the crystal microphone, the stethograph(1), the cardiophone(2) and the cardiophonograph(2), many other sounds have been discovered and their place in the cardiac cycle has been accurately outlined. Even the heart sounds of the fetus have been recorded graphically and on reproducible records(3).

Some of these sounds are of pathologic origin while others are purely physiologic. We must be able to accurately differentiate them if we do not wish to confuse the pathologic and physiologic and thus treat physiologic changes and fail to properly care for pathologic conditions in the heart.

Diastole, from the sound standpoint, is that part of the cardiac cycle whose duration extends from the beginning of the second heart sound to that of the first. Sounds appear in diastole which cannot be heard by the unaided human ear but are found in the stethogram or recorded disc. Many may be heard by the attentive and expert ear. At times the diastole may be entirely silent, even the second sound missing. In this period the following sounds may appear:

1. Normal second sound.
2. Reduplicated second sound.
3. Third sound.
4. Mitral opening snap.
5. Fourth sound (auricular part of first sound).
6. Gallop rhythm.
    a. Protodiastolic.
    b. Presystolic.
    c. Summation.
7. Murmurs.
    a. Protodiastolic.
    b. Mesodiastolic.
    c. Presystolic.

NORMAL SECOND SOUND

This sound is short, starts suddenly and ends abruptly, is clear-cut and is of varying intensity and at the points where it is best heard—aortic and pulmonic areas—it usually is of greater intensity than the first sound.

REDUPLICATED SECOND SOUND

This is observed in the initial part of diastole and follows the first half of this sound by from 0.02 to 0.08 seconds. It is due to the asynchronous closing of the aortic and semilunar valves. Either valve closing time may be in the first or second position. This finding may be purely physiologic or the result of pressure changes in the pulmonary or systemic circulation.

THIRD SOUND

This is found later in diastole than the reduplicated second sound and is the result of the rapid filling of the ventricle just before the auricular systole. This phenomenon is very commonly heard at all ages though more often in youth. It is purely physiologic and follows the second sound by 0.10 to 0.12 second. The third sound is of short duration, low intensity and frequency and is usually heard over the lower part of the heart area.

MITRAL OPENING SNAP

This vibration appears only with mitral stenosis and is present in about 50% of these cases. It appears in an intermediate position between the latter half of the reduplicated second sound and the third sound and coincides with the vertex of the V-wave in the jugular polygram. It is of purely valvular origin, is due to the stiffening of the crippled mitral valve, may be very close to the second sound and give the impression of a reduplication This sound is usually heard over the apex or the middle part of the body of the heart.

FOURTH SOUND

This is the result of the auricular systole and usually is covered by the closing vibrations of the aurico-ventricular valves. It is usually of lower intensity and shorter duration than the first sound proper. It is not unusual to hear it at all ages and may be purely physiologic, but is of special pathologic significance when conduction time is delayed and the P-R interval prolonged. The fourth sound may advance any distance into diastole and even coincide with the third sound. In the individual its distance from the first sound is usually constant. It may be present in intraventricular block. With an esophageal electrode it is always heard before the rest of the first sound. One must be careful to not mistake it for a short presystolic murmur.

GALLOP RHYTHM

This rhythm is composed of the two normal sounds of the heart and a new tone (third or fourth) that is exaggerated. If the three toned tempo is accelerated, it takes on the sound of the galloping horse and thus is called gallop rhythm. It is not always composed of three sounds but may have four sounds (with the third and fourth sounds) or may vary between three and four sounds. Gallop rhythm is usually considered to be of serious import but with this I cannot agree. However, some authors believe a gallop rhythm can only be so designated when disease of the myocardium is present. If this were true then this rhythm is of no clinical value, for the prognosis is not based upon the gallop rhythm but upon the condition of the myocardium. It may be heard oftentimes in hyperthyroidism, severe anemias and paroxysmal tachycardias and usually will disappear after proper treatment, thus is of little prognostic value in these diseases.

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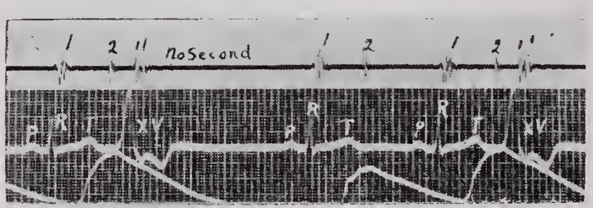
*Presented at the Annual Session of the Nebraska State Medical Association, Lincoln, May 7, 1941.

PROTODIASTOLIC GALLOP

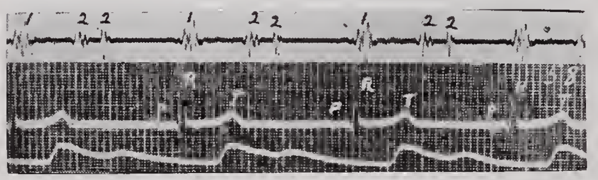
This is composed of the third sound and the two normal sounds and in my experience is of little prognostic importance.

PRESYSTOLIC GALLOP

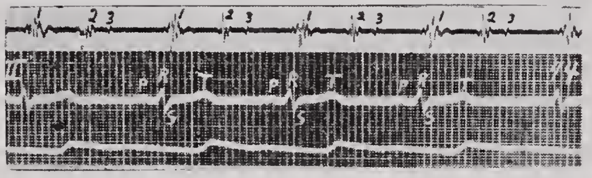
The fourth sound and the two normal sounds make up this rhythm. The fourth or gallop sound may vary greatly in distance from the first sound. When its distance from the apex of the P-wave is measured this space is called the P-G interval of Duchosal. When this space is less than 0.05 second, the prognosis is grave; when greater, becomes less so as it increases and with this I can agree. This rhythm nearly always is associated with a pathologic change in the myocardium.



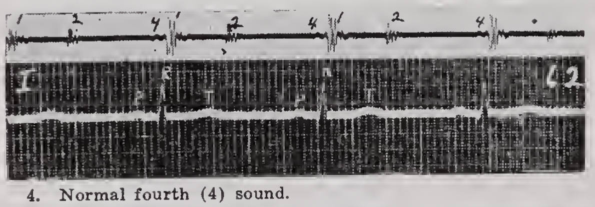
1. First (1) and second (2) sounds are normal, except when a ventricular extrasystole (xv) appears, then the first sound is double and the second is absent. Thus the entire diastole is silent.



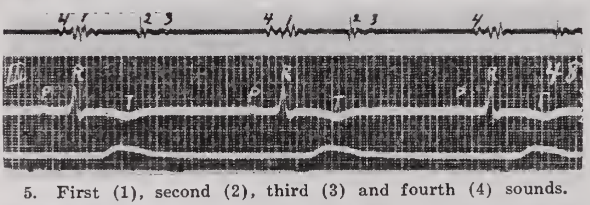
2. Reduplication of second sound (2 2).



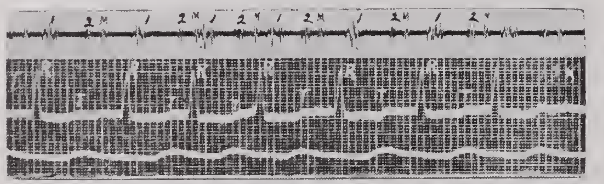
3. Normal third (3) sound.



4. Normal fourth (4) sound.



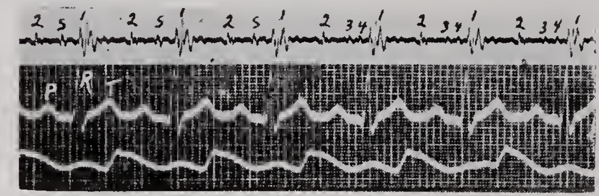
5. First (1), second (2), third (3) and fourth (4) sounds.



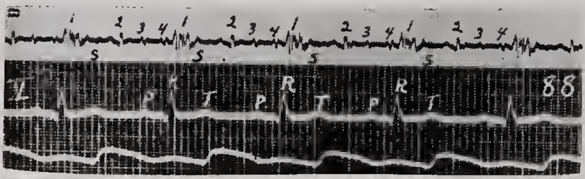
6. Normal first (1) and second (2) sounds with a mitral opening snap (M) in auricular fibrillation and mitral stenosis.

SUMMATION GALLOP

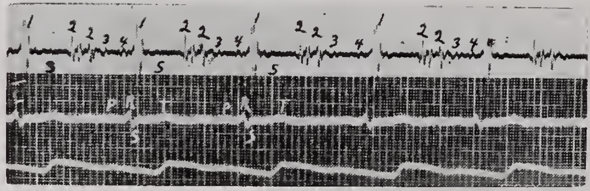
When the heart rate is rapid enough to greatly shorten the diastole then it is possible for the third and fourth sounds to become superimposed and thus a louder sound results. In this case the gallop sound may be louder than the two normal sounds. This is heard in mesodiastole. As the heart rate decreases four sounds may appear or the two extra sounds may then disappear, for each separately



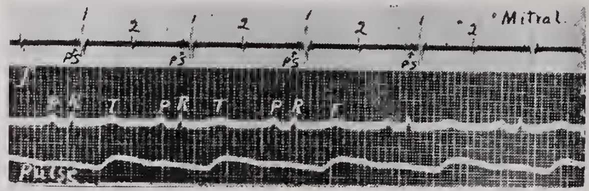
7. Summation (S) gallop rhythm when fast. When rate decreases, the third (3) and fourth (4) sounds separate and make a four tempo gallop.



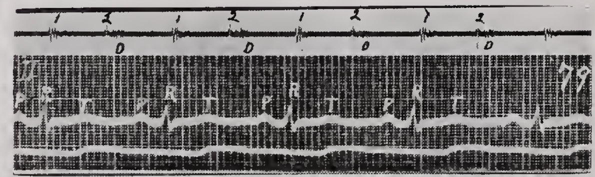
8. Normal first (1), second (2), third (3), fourth (4) sounds and a systolic (S) murmur.



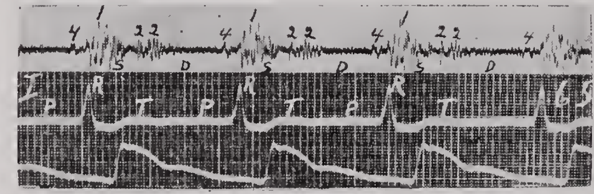
9. Normal first (1), reduplicated second (2 2), normal third (3) and fourth (4) sounds and a systolic (S) murmur. Six sounds.



10. Presystolic murmur (PS), normal first (1) and second (2) sounds.



11. First (1) and second (2) sounds normal. Short protodiastolic murmur (D).



12. Wide and high first (1) sound, systolic murmur (S), reduplicated second (2 2) sound, diastolic (D) murmur running from the second through the fourth (4) to the first sound. Six sounds.

is not loud enough to hear. If conduction is greatly delayed, the third and fourth sounds may coincide even though the rate is slow. This rhythm is usually of pathologic significance.

DIASTOLIC MURMURS

These murmurs may be very short, may be found in any part of diastole or may occupy this entire space. Each of these, in contrast to systolic murmurs, is usually the result of pathologic changes in the heart.

The protodiastolic and mesodiastolic murmurs may be the result of either semilunar valve regurgitation or auriculoventricular valve stenosis and these are usually decrescendo in type but may vary greatly from this pattern.

The presystolic (that part of diastole during the systole of the auricle) murmur can only appear in auriculoventricular valve stenosis and is usually crescendo in type. It usually disappears when the auricles fibrillate and reappears when sinus rhythm is restored. All diastolic murmurs may be of such low intensity they cannot be heard by the unaided ear but in this case by means of the crystal microphone and methods of amplification can be distinctly heard and recorded. Thus if treatment is of value it can be applied early before much destruction of tissue has taken place. Of course, murmurs do not require treatment(4) but the etiological changes which are responsible for the murmurs, as syphilitic aortitis, can be discovered by the careful use of auscultatory aids and other means and then properly treated.

SOUNDS OF FUNCTIONAL OR PATHOLOGIC ORIGIN?

1. Reduplicated second sounds, usually functional.
2. Third sounds, functional.
3. Mitral opening snap, pathologic.
4. Fourth sound, functional or pathologic.
5. Gallop rhythm.
    a. Protodiastolic, usually functional.
    b. Presystolic, usually pathologic.
    c. Summation, usually pathologic.
6. Diastolic murmur, usually pathologic.
7. Presystolic murmur, pathologic.

DISCUSSION

DR. DUNN, Omaha: Dr. Smith has done a great deal of hard work. I think this makes an extremely interesting presentation. I think one of the big problems of the stethograph situation has been the problem of filtration and the difficulty to obtain suitable amplification. If you go back even to the original Einthoven records, filtration was introduced by the type of rubber tubing and the rubber diaphragms that were used, and when Dodge, of the Bell Laboratories,, developed an electrical stethophone in '22, the distortion was still marked. That problem of distortion has confronted all the people who tried to work with this problem. We have been interested in it for several years. It seems to us that the recent development of the cathode ray oscillograph has offered some new possibilities. We are much impressed with the publications in the December and January American Heart Journals by Kountz and his associates at St. Louis on the development and utilization of cathode ray equipment in this type of recording. The cathode ray tube, which is just an electron beam, has no real inertia so it will respond to very fast or very slow frequencies. At the same time the development of the quartz crystal microphone, a development of really recent years, has made it possible to pick up sound vibrations without the introduction of any air space, and that's bringing up a controversial situation as shown by the March number of the American Heart Journal, where Sprague at Boston is apparently going to go on with the contention that the proper stethoscope amplifier should be one that has the distortions of the usual type of aural stethoscope. It seemed to us that Kountz's contention is probably more useful and that is that we should develop amplifiers that really have fidelity of response. We have been playing with this—it seemed to us—Dr. Smith and I were discussing that point—that there is much suggestive evidence that some of the very low frequency responses which are so difficult to obtain with some amplifiers are of a great deal of importance in cardiology.

First Slide. This is the picture of the normal electrostethograph, taken with cathode ray equipment that we have developed, and shows the first tone which is quite vibratile in character and more stretched out, and then the second tone with a little hump. You will notice the variation with respiration—heart tones as you know change a great deal with respiration.

Next Slide. Here is one with an apex area electrostethograph picked up in a case of a double aortic murmur presumably due to an aneurysm with a valvular leak. The point that we are trying to make, and hoping to make, and in conformity with Kountz's work, is that with amplifiers which have time constants down to a quarter of a second, it would be possible to bring out certain details of heart tones that are of significance. I might suggest in that connection the possibility of recognizing myocardial weakness. I might mention that Kountz's data, which is in conformity with some of ours, shows that with this type of pickup 95% of first tones are split.

I certainly want to compliment Dr. Smith on his paper. Thank you.

DR. SMITH: I want to thank Dr. Dunn for his expert discussion. He has done a good deal of work along the line of registering sounds which develop in the lungs. It is not sounds of high frequency in the heart with which we need to deal for all these can easily be registered. The blind area in the heart is represented by sounds of less than 50 cycles per second. By the method which I have developed, sounds of 30 cycles can be photographed and recorded on discs and later reproduced.

As Dr. Dunn says, amplification and distortion are the great problems, but our principal interest should be, what assistance can we get from this method in developing clinical knowledge of heart changes? If heart sounds are of any value—and I believe their proper recognition is of more value than any one other clinical method in the examination of the heart—they should be accurately recognized and carefully interpreted so we may know whether they originate from pathologic or physiologic conditions in the heart. The earlier the abnormal heart sound is recognized—and it must be admitted amplification methods will make earlier recognition possible—the earlier the required treatment for the underlying pathologic condition can be instituted. Rheumatic fever is one of these diseases. As soon as any heart damage is recognized, or even before, some of the sulfon group can be given and it is hoped these drugs will prove of value in the prevention of destruction of the heart valves.

We do not listen to the heart to hear murmurs alone, but there are many other things we can gather from auscultation, such as the accurate rate and rhythm, variations in heart sounds, variation in intensity and duration of the heart sounds and many other changes in the sounds and areas.

One of the principal values of the recording of heart sounds and of lung sounds, as Dr. Dunn is doing, is the fact the physician will not necessarily depend upon his memory of what has gone on before. By comparison of records taken at various times exact knowledge of the change taking place in the heart will not be left to guess-work but to an exact mathematical method. Each added method of examining the heart will tend to make heart diagnoses more accurate. Therefore, it seems to me it is well to use all available methods in the examination of a person with any suspected heart abnormality.

Thank you.

CONCLUSIONS

It has been shown many sounds not usually considered may appear in the diastolic period of the cardiac cycle.

Some of these sounds are of normal physiologic origin while others can only result from pathologic changes in the heart.

The clinical problem is to differentiate the harmless from the serious and thus early institute treatment, if necessary, or refrain from it if none is indicated.

The differentiation of the various diastolic sounds cannot be made by guesswork but each can be definitely identified by modern cardiologic methods of examination and with the aid of sensitive instruments which record most of these sounds.

Finally, it must not be inferred a definite diagnosis of heart disease is made by auscultation or graphic means alone, but every possible means should be employed to arrive at a complete understanding of the heart—normal or abnormal. Complete knowledge of a crippled heart is only learned when we know the etiology, pathologic physiology, pathologic anatomy and functional capacity.

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Pronunciation of Sulfanilamide

The recommendation of the Committee on Nomenclature of the Council on Pharmacy and Chemistry of the American Medical Association regarding the pronunciation of the words amide, sulfanilamide and sufathiazole has been accepted by the Council, it reports in The Journal of the Association for January 31.

The Council reports that "the committee recommended that the word amide be pronounced with a long 'i' (amide), this being preferable both because of the final e and the analogy with chloride and iodide. For the same reason the committee held that the preferred pronunciation of sulfanilamide should be sulfanilamide with the major accent on the antepenultimate syllable, il.

"In agreement with the principal that English accentuation is recessive, it is believed that the preferred accent would be on the syllable thi in sulfathiazole."

It is explained that these pronunciations are in harmony with those recommended by the American Chemical Society.

Vesicular and Vesiculopustular Eruptions of the Hands and Feat

Some of the most troublesome, though harmless, diseases of the skin involve the hands and/or feet in the form of small blisters or pustules on the thick skin of the palms, soles, fingers and toes.

The popular conception that such eruptions are a form of fungus infection (ringworm or athletes' foot) cannot be borne out by microscopic and cultural studies. Actual demonstration of fungi can be made in only five to 15 per cent of children and 30 per cent of adults. During the summer, the heat of which encourages the growth of fungi, the percentage rises to 50. Vesicular eruptions resulting from allergic reaction to external irritants as proven by a positive patch test are seen more frequently in industries than in ordinary life.

Functional studies indicate that most vesicular and vesiculopustular eruptions of the hands and feet occur as a result of perversion of the sense of fatigue and fall in the large group of functional diseases. Treatment directed toward the underlying nervous exhaustion must be added to local measures to be efficacious.—S. W. Becker, M. D., Chicago, in Jour. Mich. State Med. Soc. for February, 1942.

Cardiac Disease Complicated by Pregnancy*

(Ten Years Experience at the University of Nebraska)

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The obstetrician accepts a grave responsibility when he undertakes to guide a cardiac patient through a pregnancy. A critical review of ones past experience will often establish a basis for the selection of future methods. With this in mind we studied the experience of the University Hospital with cardiac disease complicated by pregnancy and herewith report our observations.*

The hospital files of the last ten years contained the records of 41 gravid cardiac patients. While this series is not large it is of sufficient size to warrant some tentative deductions. These women had delivered a total of 174 babies, or an average of 4.2 per patient; 48 of these were delivered in the University Hospital. The cardiac lesions are divided as follows (chart I). Thirty-one were of rheumatic origin (1 rheumatic, 63298, showing also a luetic lesion); 3 thyroid; 1 luetic; 2 congenital hearts; 2 with essential hypertension; and 1 with acute bacterial endocarditis. This distribution of cardiac lesions is similar to the reports in the literature which show a preponderance of the lesions to be of rheumatic origin.

I

Total pregnancies	174
Total cases	41
Average pregnancies per patient	4.2
Delivered at University of Nebraska (Total)	48
Distribution:	
Rheumatic Fever	32
Thyroid (1 luetic)	2
Congenital	2
Essential Hypertension	2
Bact. Endocarditis	1
Lues	1
Total cases	41

These patients have been handled variously, depending on the attending obstetrician and the consulting internist. They may be divided in two groups as follows: Those whose pregnancy was interfered with by operative means, either before or after viability, and those delivered through the pelvis after viability (chart II). There were 15 patients whose pregnancy was interfered with one way or another, 4 of which were by therapeutic abortions (10%) with 1 severe sepsis. Eleven patients were delivered by the abdominal route, with 1 death (9%). Twenty-five cases were delivered through the pelvis at term, with 3 deaths (12%). One additional patient (49245) entered the hospital and died within 3 hours, undelivered. On the face of it this would indicate no apparent choice between the abdominal delivery and the pelvic delivery, these routes producing a 9% and 12% mortality respectively. However, we must more critically analyze the patients in the 2 groups and the causes of death.

II

Method of Delivery

Abortions	4		
(1 severe sepsis)			
Abdominal delivery	11		
Deaths		1	
Mortality			9%
Pelvic deliveries	25		
Deaths		3	
Mortality			12%
Undelivered	1		
Total	41	4	
Gross mortality 10%			

These patients were classified according to the functional classification of the American Heart Association (chart III). The severe cardiac cases were not delivered by section (chart IV). All of the patients in functional

III.

Functional Classification of Cardiac Patients

I. Organic lesion with no symptoms.
II. Organic lesion with symptoms.
  A. Mild symptoms with activity.
  B. Moderate symptoms with activity.
III. Cardiac failure.
(American Heart Association)

IV.

Delivery by	I.	II.		III.	Total
		A	B		
Caesarean Section	4	6	1		11
Pelvis	9	11	2	3	25
Abortion		2	2		4
Undelivered				1	1
					41

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*Presented at University faculty meeting on December 3, 1941.

Case No.	Date	Cardiac Lesion	Para and Gravida	Cardiac Classification	Delivery	Outcome++
66672	1940	Rheumatic heart mitral	Gr. II	IIA	Spont.	MO-BO
65043	1939	Congenital heart	Gr. II	I	Spont.	MO-BO
63243	1939	Rheumatic heart	Gr. IV Pr. IV	IIA	Spont.	MO
65836	1935	Toxemia—pelvic thrombosis with pul. infarc and empyema Toxic myocarditis	Pr. I	?	Low F.	MO-BO
	1937	None	Pr. II	?	Spont.	MO-BO
	1939	Toxic myocarditis Empyema—unresolved pneumonia	Pr. III	III	Mid. F.	MX—5 days
65148	1939	Rheumatic mitral	Pr. V	IIA+	Low F.	MO-BO
70159	1939	Rheumatic mitral	Gr. IV	IIA	Low F.	MO-BO
	1941	Rheumatic mitral	Pr. II		Sterilization	
64258	1939	Thyroid heart with fibrillation Thyroid ligation, etc.	Pr. V	IIB	Spont.	BO MX Pul. embolism 7 days
63298	1939	Rheumatic Luetic Heart	Gr. XI Pr. IX	IIA	Spont. At home	MO
63194	1939	Rheumatic mitral	Pr. VI	IIA	Spont.	MO-BO
49337	1934	Rheumatic	Gr. VI Pr. V	IIA	Spont.	MO-BO
49023	1934	Rheumatic mitral	Pr. VIII Gr. VIII	IIA	Section	MO-BO
60849	1938	Rheumatic mitral	Pr. IV Gr. V	I	Spont. At home	MO
57631	1937	Hypertension (Toxemia)	Gr. II	IIA	Hysterotomy	MO-BX
57514	1937	Rheumatic mitral	Pr. I	IIA+	Section	MO-BO
55940	1937	Hypertension+ mitral—rheumatic	Pr. VIII Gr. IX	IIB+	Section	MO-BO
58768	1937	Rheumatic mitral	Pr. I	I	Episiot. and Low F. Ether	MO-BO
61283	1938	Rheumatic mitral		IIA	Spont.	MO-BO
63006	1932	Rheumatic aortic mitral, fibrillating	Pr. IV	IIB	Spont.	MO-BO
	1935	Fibrillating		IIA	Spont.	MO-BO
	1939	Fibrillating rheumatic+ luetic		IIA (B)	Spont. Sterilization	MO-BO
63609	1939	Bact. endocarditis Blood cult.+	Pr. III	III Acute infec. Strep. viridans	Spont. 7 mo.	MX-BO
63923	1939	Rheumatic mitral	Pr. I	I	Low F.	MO-BO
64285	1939	Rheumatic Mitral aortic	Pr. III	I	Spont.	MO-BO
64350	1939	Auric. fibrillation	Pr. V	I	Low F.	MO-BO
64529	1939	C. V. accident Mitral	Gr. V Pr. III	II(A)	Section Sterilization	MO-BO
58086	1937	Rheumatic mitral		I	Section	MO-BO
61565	1933	Aortic and mitral stenosis	Pr. VIII	I	Forceps (Inertia)	MO-BO
	1935	Mitral regurgitation	Pr. VIII	IIA	Forceps	MO-BO
	1937	Mitral stenosis	Pr. IX	IIA	Spont.	MO-BO
	1938	Mitral stenosis	Pr. X	I	V and E Prolapse cord	MO-BO
49245	1935	Mitral Sub. ac. bact. endo.		III (Died 3 hr. after entrance)		MX-Undelivered 6½ months pregnant
47520	1934	Thyroid (+35%) Aortic	Pr. I	II	Abortion. Septic course 20 days requiring transfusion etc. Letter from pt. states fever and hemorrhage continuing 1 mo. later. Sepsis.	MO-BX
47024	1934	Rheumatic mitral	Pr. I	IIB	Hysterectomy	MO-BX
47309	1934	Rheumatic mitral	Gr. XIII Pr. I	I	Section Sterilization	MO-BO
46068	1934	Lues	Gr. VII Pr. IV	I I	Porosection P. O. hem. and shock	MX-BX
45920	1934	Rheumatic	Pr. III	I	Section	MO-BO
45336	1932	Mitral insufficiency	Pr. VII	IIA	Spont.	MO-BO
	1934	(Complete)	Pr. VIII	IIA	Section	MO-BO
41432	1932	Mitral stenosis (chores)	Pr. I	I	Section	MO-BO
68128	1941	Rheumatic fibrillation Thyroid	Pr. I	11B, III	Hysterot. Sterilization	MO-BX
68724	1941	Rheumatic mitral	Gr. VIII	III	Spont. L. F. Sterilization	MO-BO
71556	1941	Rheumatic mitral	Gr. VII	IIA	Spont. Sterilization	MO-BX
68855	1940	Rheumatic mitral	Pr. II	IIA	Elect. Sec. Sterilization	MO-BO
69621	1940	Congenital pul. stenosis	Gr. II	IIA	Spont. Sterilization	MO-BO
69751	1940	Rheumatic Mitral insufficiency	Gr. III	I	Spont. Sterilization	MO-BO
72288	1941	Rheumatic recurrent Mitral—chorea	Gr. II	11A	Spont. Sterilization	MO-BO
73436	1941	Rheumatic stenosis	Gr. II	I	Spont.	MO-BO

++M—Mother B—Baby O—Living X—Dead

class III (cardiac failure) were delivered through the pelvis. Ten of the 11 patients delivered by the abdominal route were classified I or IIA, indicating a very mild type of cardiac disease with good cardiac reserve. The death (46068) occurring in this series was in a grade I cardiac and followed a Caesarean section; the patient died from hemorrhage and shock (chart V). The severe sepsis (47520) followed an abdominal hysterotomy, the patient being bedfast for 7 weeks. Both of these complications must be attributed to the operative procedure elected.

V.

Deaths

46068—Caesarean death; occurred 6 hours P. O. of hemorrhage and shock.

65836—Unresolved pneumonia with empyema and cardiac failure; died 5 days P. P.

64258—Pulmonary embolism 14 days P. P. Also thyroid ligation 3 weeks before.

63609—Bacterial endocarditis; + blood culture; died 6 days P. P.

49245—Died undelivered 3 hours after admission; bacterial endocarditis.

Corrected Mortality:

Pelvic—4%.

Abdominal—9%.

Chart V analyzes the 3 deaths occurring in the 25 patients delivered through the pelvis. Case 65836 entered the hospital in cardiac failure, having had 3 previous deliveries in this hospital; 2 of which had been complicated by pulmonary infarction and empyema. On this occasion the patient entered with an unresolved pneumonia and an empyema; her cardiac status was a toxic myocarditis with cardiac failure. She died on her fifth postpartum day. The second patient (64258) had a thyrogenic heart disease with fibrillation and was subjected to a thyroid artery ligation 12 days before delivery. She died 14 days postpartum of a pulmonary embolism. Since no autopsy was obtained the source of this embolus is unknown. The third patient (63609) entered the hospital at 7 months gestation with an acute bacterial endorcarditis in cardiac failure. She had a positive blood culture for streptococcus viridans. One month later labor was induced and the patient died 6 days postpartum. These 3 deaths occurred in group III (cardiac failure) patients. Two certainly would have occurred whether they had been pregnant or not, and the third (thyroid) may have been either a surgical or obstetrical death. We are thus left with only 1 death even remotely connected with the pregnancy or its termination when the pregnancy terminated pelvically, or a corrected mortality of 4% (0.% if the embolus came from the thyroid). Thus we find that even though the more mild cardiac was handled by Caesarean section it nevertheless has a mortality rate of two and a half times that of pelvic delivery.

There is another point which we believe is worth noting. Of the 37 patients who left the hospital alive 13 (33%) were sterilized. This left 24 patients subject to the additional hazards of pregnancy and the care of children. This is important when we realize that the patients who died were para II, III, V, and VII respectively. Sterilization prior to the fatal pregnancy might have prolonged these patients' lives. It would seem to us wise to recommend some means of limiting the number of pregnancies in these cardiac patients who already have several children.

CONCLUSION

These figures would suggest the following conclusions:

1. A patient with good cardiac reserve (class I or IIA) if properly managed, may undertake an obstetric episode without great additional risk.

2. Many of the deaths associated with pregnancy and cardiac disease are the natural termination of cardiac disease and would have occurred without the pregnancy.

3. As the patient and her heart gets older the hazard of pregnancy, plus the extra physical load of caring for those additional children, is so great that the number of pregnancies should be limited by appropriate measures.

4. The condition of the patient as she goes into labor has more to do with the outcome of her pregnancy than the management of the labor. This is a function of prenatal care and is best accomplished by the intimate cooperation of the internist and obstetrician.

5. Caesarean section in cardio-gravid patients gives a mortality rate over twice as high as pelvic delivery. (9% and 4%).

The "History" in the Study of a Cardiac Case

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In recent years a tendency has developed to over-estimate the importance of the x-ray and electrocardiogram in establishing a diagnosis of heart disease and to forget that these methods, while indispensable in certain conditions, have a somewhat limited field of usefulness. It would be difficult, indeed, to over-emphasize that the x-ray and the electrocardiogram should supplement the clinical examination,and that when an attempt is made to use them as a short-cut to a diagnosis, serious mistakes are likely to occur.

The technique of history taking in a cardiac case does not differ from the usual method employed in dealing with other types of disease. A good history should give an accurate picture of the patient's illness from its inception up to the time of the examination. Since a patient is rarely able to supply the necessary information unaided, the doctor should subject the important symptoms to a critical analysis and attempt to arrange the story in chronological order. As an illustration, when a patient complains of pain in the chest, we must determine its character, its exact location, its duration, radiation, apparent cause and the means of relief. If a patient has an ascites and edema of the legs, we should know whether the abdominal enlargement preceded or followed the swelling of the legs.

As this is neither the time nor place to discuss the technique of history taking, I shall limit my remarks to a brief consideration of a few of the more important symptoms resulting from or suggestive of heart disease.

Since the management of a patient with valvular or myocardial disease usually consists in either an attempt to prevent or to postpone congestive heart failure or to treat a decompensation once it has occurred, the doctor should have a correct concept of heart failure. With the exception of gallop rhythm and pulsus alternans in hypertensive heart disease, the presence or absence of heart failure is not determined from an examination of the heart, but in the early stages is determined solely from the history, and in the later stages from the history and the examination not of the heart but of the patient as a whole. There is nothing occult about the symptoms of congestive failure—they are: Dyspnea, edema, cyanosis, cough and hemoptysis. I would like to stress that such symptoms as exhaustion, easy fatiguability, indefinite gastrointestinal complaints, while they may result from heart failure, are non-specific and consequently have little diagnostic value. One should also remember that changes in rate or rhythm are not to be considered a sign of heart failure, or with a few exceptions even of organic disease. A heart may be badly decompensated with a normal rate and rhythm or it may be well compensated with an extremely rapid rate and a gross arrythmia. A low systolic blood pressure only exceptionally is a result of myocardial weakness and it is, therefore, only rarely an indication for digitalis. Neither is one ever justified in concluding that faintness of the heart sounds is of any significance unless he knows that the heart sounds have previously been easily heard.

Dyspnea, while by no means pathognomic, is always present in congestive failure. Shortness of breath on effort is physiologic and only becomes pathologic when it occurs after exertion which has regularly been performed without distress. In general the amount of exertion required to induce dyspnea is an index of the degree of decompensation. Dyspnea while at rest and orthopnea are obviously indications of severe heart failure. There are several types which merit special mention. The sighing respiration, pathognomic of cardiac neurosis, results from a feeling that the patient is unable to fill his lungs completely. Cheyne-Stokes respiration is frequently present in arteriosclerotic or hypertensive heart disease and often interfers with sleep since the apneic phase awakens the patient with a feeling of suffocation. Paroxysmal nocturnal dyspnea is an ominous symptom indicative of left ventricular failure. These attacks most commonly occur with hypertensive heart disease, leutic aortitis, or coronary sclerosis. The patient is awakened with a feeling of suffocation and sits upright struggling for air. He becomes agitated, develops a cough and often breaks into a cold sweat. After 15 or 20 minutes the attack may subside and the patient is able to sleep the rest of the night. If untreated an attack may develop into an acute pulmonary edema. Occasionally dyspnea or even acute pulmonary edema is the initial symptom in acute coronary occlusion.

The edema of heart failure not infrequently must be differentiated from nephritic edema, the edema of hypoproteinemia, phlebitis, cirrhosis of the liver, etc. Cardiac edema in the ambulatory patient appears first in the pretibial region and is bilateral. In the early stages it disappears during the night only to form again during the following day. In the bed-ridden patient, edema will be found first over the sacrum, in the bases of the lungs and later on the flexor aspects of the legs. In intractable cases the edema may extend above the thighs and involve the abdominal and chest walls and at times even the hands and arms.

Cyanosis is common with mitral stenosis and congenital heart lesions with a right to left shunt. The hemoptysis which is occasionally seen in mitral stenosis will not be considered as being due to tuberculosis if the physician is trained to recognize the murmurs of this valvular lesion.

I know of no other symptom that will cause a patient more concern than pain in the left chest. In handling a patient with this complaint the physician faces a grave responsibility. An incorrect diagnosis of angina pectoris often lays the foundation for a neurosis which no amount of subsequent reassurance can eradicate. On the other hand if an angina is mistaken for some minor digestive disturbance both the patient's life and the doctor's reputation are jeopardized. while an electrocardiogram may often be helpful, in most instances the diagnosis of angina pectoris must be made solely from the history and therefore it behooves us all to be thoroughly familiar with the typical as well as the atypical manifestations of the anginal syndrome. The diagnosis of luetic aortitis and neurysm will rarely be missed when the history and physical examination are supplemented with a Wassermann and a chest x-ray. The clinical picture of coronary occlusion is so well known at the present, that there is apparently some danger of overdiagnosis; sudden death from acute indigestion has become quite rare.

Palpitation is a symptom which frequently brings a patient to his doctor for a heart examination. It is seldom a major complaint when a serious organic disease is present. Effort syndrome, hypertension, hyperthyroidism or an arrthymia of some type are the most frequent causes. An electrocardiogram is only occasionally necessary to differentiate the more common types of arrhythmias. The fact is still not generally realized that premature beats per se can never be taken as a sign of myocardial disease. Their presence does not call for restriction of the patient's activities and is not an indication for digitalis therapy.

While it is true that most cases of instantaneous death are due to heart disease, in general, attacks of syncope are rarely of cardiac origin. Adams-Stokes attacks or paroxysmal tachycardia with extremely rapid rates do occasionally result in syncope, but attacks of unconsciousness are much more likely to be caused by benign syncope, epilepsy, carotid sinus syncope, cerebral insults, or sudden massive hemorrhage.

From the standpoint of etiological diagnosis a careful survey of the patient's past history is essential. A simple, practical classification of heart diseases into congenital, rheumatic, luetic, hyperthyroid and hypertensive or arteriosclerotic will at once suggest the proper line of investigation.

From the standpoint of therapy the personal history is especially important. Since we are to treat not only a heart lesion but the individual we should know his occupation, his social and economic status, the number of hours spent each day in work, at rest, etc., etc.

To recapitulate: 1. A good history and a careful physical examination are essential to a correct cardiac diagnosis.

2. The electrocardiogram and x-ray should be used to supplement a clinical study of the patient and can not replace the time-honored methods of examination.

Physical Examination of the Heart

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Modern trends in the field of cardiology have tended to eclipse the importance of information that can be obtained from intelligent use of our eyes, hands and ears in the evaluation of cardiac conditions. The impression that the electrocardiogram is the final court of appeal in cardiac problems is too prevalent amongst laity and physicians alike. The fact that the size of the heart cannot always be accurately determined by percussion too frequently leads to the false conclusion that the procedure is of little or no value. Nothing can be farther from the truth. We believe it is worthy of repeated emphasis that cardiac diagnoses and the evaluation of cardiac functional state are based on knowledge gained from the integration of all factors observed in a study that includes:

1. A careful, complete and intelligent history.
2. A physical examination of the body as a whole, and the heart in particular including the usual blood and urine studies.
3. Fluoroscopic and x-ray examinations.
4. The electrocardiogram.
5. Special laboratory studies when indicated or desired in selected cases.

The routine is listed somewhat in the order of the relative importance of the procedures. Certainly no part is more important than the history. The physical examination when done with an awareness of both its value and its limitations is certainly second in importance only to the history. The remaining procedures are usually confirmatory, frequently yield additional information, and are only occasionally indispensable. Except for the fact that it is more the rule than the exception to observe physicians and medical students in ward rounds, immediately reach for their stethoscopes when a cardiac problem is at hand, it would seem presumptuous to spend time reviewing the rudiments of physical examination, namely inspection, palpation, percussion, and auscultation. It seems natural that these procedures should follow the order of their development in medical history. Inspection and palpation certainly date back as early as medical history itself. The other steps are of much later origin. As long as the human race must have used percussion of some type, to find the level of fluids in barrels, or other containers, it is rather remarkable that percussion was not utilized in the examination of the body until Auenbrugger, the Austrian, introduced it in 1761. It was another 60 years before Laennec introduced the stethoscope giving impetus to the development of auscultation. Cultivation of a systematic routine of inspection by the medical student is the best foundation on which he can build the ability to see and select important findings of inspection at a glance. So far as we know selective and differential judgment comes only through repeated observation and experience. It goes without saying that a great deal of value in cardiac cases is often apparent on inspection, and at a glance, the skilled observer covers much territory in a short time. The type of breathing, pallor, cyanosis, clubbing or edema may be the first suggestion of circulatory disturbance. The eyes of the patient may give us the first impression about the possibility of syphilis or thyroid disease. The veins in the neck may give us our first lead as to the presence of sinus rhythm or auricular fibrillation. Abnormal pulsations may be the first suggestion of aortic disease or rarely tricuspid insufficiency. The thrill of diagnosing dextrocardia on inspection even if only once in a lifetime, warrants the habit of always looking carefully for an apex beat. The barrel chest tells us immediately that physical examination will not elicit much regarding actual heart size. The normal, or thin-chested individual, usually means a heart accessible to physical examination, and a certain amount of definite information is available to the examining hand. Increased precordial activity in this type may warrant the immediate assumption that cardiac enlargement and a diseased heart is present.

Palpation carried on simultaneously with inspection gives information that is often immediately integrated with the objective findings of inspection. Rapidly collapsing pulsations in the neck or brachials with water hammer radial pulse are usually adequate for the presumptive diagnosis of aortic insufficiency and predict the auscultatory findings. Variation of rate, volume, rhythm and character of the pulse are important but much inference from the pulse is best reserved for correlation with subsequent findings. For example an absent dorsalis pedis pulse in the usual location may be due to an anatomical variation rather than vascular disease. Palpation of a diffuse, forceful apex beat means left ventricular enlargement and sets up thinking along the line of the types of cardiac disease characterized by enlargement of that part. Palpation of a thrill usually predicts an aortic or a mitral stenosis, depending on its location. A patent ductus arteriosus is a much rarer cause for a thrill in still another location. Other causes for thrills do occur but are quite rare.

With the advent of x-ray there has been a general tendency to throw percussion into discard as an accurate method of determining the heart size. This is of course true in many instances. However, it seems to us that the lack of a logical approach to percussion has contributed more to the characteristic medical students skepticism regarding percussion of the heart, than has the fact that x-rays have frequently proven the carefully percussed cardiac outline to be erroneous. However, it seems that the majority of text books on physical diagnosis, convey the idea that the objective of cardiac percussion is to obtain an outline of all the cardiac borders. If this were the objective we might as well discard percussion and rely on x-ray entirely. We believe, if one is willing to approach percussion as a procedure which in spite of definite limitations, can contribute definite objective evidence of cardiac disease, a rather different conception of its value is warranted. A quick around the heart routine in which no attempt to outline the cardiac contour is made, is in our opinion a most useful procedure. It should be emphasized here that positive evidence is regarded as significant and negative evidence as inconclusive. If the chest is deformed, grossly obese or emphysematous, one would of course be skeptical of the information gained by percussion. On the other hand, in a normal or thin-chested patient, definite information regarding the left ventricle can often be obtained. Outward and downward displacement of the apex signify left ventricular hypertrophy, and, as mentioned above we may start considering possible reasons for this, such as aortic disease, hypertensive disease, or mitral insufficiency, among the more common causes. Regarding the right ventricle a dull or flat percussion note over the lower sternum compared to the upper is suggestive evidence of enlargement of the right ventricle. It should not be inferred that the absence of this finding always means a normal right ventricle. Again, positive findings are significant, negative are inconclusive and doubtful findings should be considered as negative. As to the right border of the heart it is our impression that little attention should be paid to other than gross or very definite percussion changes. The same holds true for the aortic area, but definite percussion findings in this area are certainly significant of mediastinal or aortic pathology. Last but not least the area of the pulmonary conus. Percussing inward on a line from the angle of the left shoulder to the xiphoid process, normal cardiac dullness begins on the average at the intersection of this line with the fourth rib. Frequently, evidence of mitral configuration of the heart is present, in finding cardiac dullness beginning at the third rib or above, on this line. Thus by following a simple quick routine we may frequently obtain evidence of disease of the left ventricle, occasionally of the right ventricle and right borders, occasionally of aortic pathology, and quite frequently of mitral disease. It should go without saying that percussion gives definite evidence in a heart that is grossly enlarged in all diameters, as well as of a pericardium that is distended with a large amount of fluid. It is our feeling that this or any other percussion routine, in which the objective is to obtain evidence of cardiac disease, is a useful procedure, and that the attempt to duplicate the x-ray outline of the heart is a stupid waste of time. Again, positive findings are significant. Negative findings are inconclusive. Doubtful findings should be considered negative, until proven otherwise.

Auscultation: This relatively modern development in cardiac examination, (1819) still gives many a physician a furrowed brow when he does not understand the language it speaks, usually because of lack of adequate examination before the use of the stethoscope. We should like to emphasize here that it definitely should be the last part of the routine in physical examination of the heart. The routine of auscultation should always include the four different valve areas, the tricuspid area, the aortic area, pulmonic area and the mitral area. It has been said that normal tones are usually heard over the right heart and it may be best routine to listen first over this area. The importance of listening to all patients both erect and prone, and in supposedly normal patients, after moderate exercise, should be emphasized.

We will not attempt to go into the significance of murmurs, from the standpoint of anatomical cardiac diagnosis. They might be classified briefly as common murmurs and uncommon murmurs, or systolic and diastolic. Of organic and functional murmurs, it is worth mentioning that some of the functional murmurs are distinctly harsh. We feel that the point most worthy of emphasizing here is the undue significance placed on murmurs by many patients. Each time science provides a new instrument to increase our diagnostic skill, many reasonably happy patients have had new worries thrust upon them—murmurs from the stethoscope, high blood pressure from the sphygmomanometer, and chronic myocarditis (now obsolete) from the EKG. If we can get it across to our patients that a murmur has absolutely no significance concerning the muscular ability of the heart to carry on its work, much unnecessary anxiety can be avoided. Regarding auscultation, I know of no better commentary than Oliver Wendell Holmes' classic, "The Stethoscope Song."

The last verse is quoted below, and the entire ballad is recommended to all for both amusing and instructive reading:

"Now use your ears, all you that can,
But don't forget to mind your eyes,
Or you may be cheated, like this young man,
By a couple of silly abnormal flies."

* * *

Modern Methods of Immunization

Physicians who are concerned with the immunization of infants and children have as their goal the use of materials which will not sensitize the patient and the ultiziation of routes of administration that cause least discomfort. Definite assistance toward these objectives is provided by use of combined antigens in the opinion of a recent observer (J. Florida M. A., 28:330, 1942). The author has employed Combined Diphtheria Toxoid-Tetanus Toxoid, Alum Precipitated (Lilly) for the last three years without any untoward reactions.

The combination of diphtheria and tetanus toxoids is effected by mixing suitable amounts of the respective toxins which have been detoxified by the use of formaldehyde, and precipitating from this combination with alum the diphtheria and tetanus toxoids. The individual toxoids are tested for toxicity prior to mixing, and the combined alum precipitated toxoid is tested for toxicity after precipitation. Potency is determined by injecting guinea pigs with a human dose. After four weeks the blood serums of these animals must show at least 2 units of diphtheria antitoxin and 2 units of tetanus antitoxin per cubic centimeter of blood serum.

Should exposure to either diphtheria or tetanus occur before immunization against each disease is completed, the usual procedures for immediate protection of unimmunized subjects should be considered. The combined toxoid is not for treatment, it is a prophylactic measure of active immunization against diphtheria and tetanus.

* * *

A campaign of public education is being undertaken by the Nursing Council's Committee on Recruitment of Student Nures, headed by Miss Katharine Faville, director of the famous Henry Street Visiting Nurse Service of New York City. Recruitment of student nurses, Miss Faville points out, is entirely distinct from the American Red Cross plan for the training of volunteer nurses' aides for work in hospitals.

"Our call is directed to those young women between the ages of 18 and 35 who are qualified to enter schools of nursing and take at least the basic three-year course in preparation for professional nursing," Miss Faville said. "Thus they will be fitted to fill the places of graduate nurses who are now being assigned to the nursing corps of the Army, Navy and other government services. Student nurses can begin to relieve the nursing shortage to some extent almost as soon as they enter training."

There will be many opportunities for nurses after the war as well as during the present emergency, according to Miss Faville. Women who combine a college education with training as nurses have been in great demand for many years; and there will be an increased need for such nurses during the postwar reconstruction period, as well as an expanded need for teachers, supervisors, and executives in schools of nursing, hospital nursing services and in public health nursing agencies.

Young women who wish further details on this subject should write to the Nursing Information Bureau, 1790 Broadway, New York City.

Radiological Examination of the Heart

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Radiological study provides valuable information regarding the size, contour, density and pulsation of the heart. The location and nature of a cardiac lesion can frequently be deduced from these findings. The evaluation of cardiac efficiency is likewise elucidated. Prognosis of the case is correspondingly clarified. Correlation with history, auscultation, blood pressure and electrocardiography is necessary for full utilization of the radiological findings.

The topographical relations of the cardiac chambers and great vessels to the planes of the thorax must be borne in mind while making radiological studies. Embryological rotation of the heart to the left accounts for the posterior placement of the left auricle and the anterior placement of the right ventricle. The right auricle occupies the right upper anterior aspect; the right ventricle the lower anterior aspect; the left ventricle the lower left and lower posterior aspects and the left auricle the upper posterior aspect of the heart. The aortic arch crosses from the anterior right upper mediastinum to its left posterior region. The pulmonary artery lies along the upper left anterior base of the heart just below the aortic knob. Mitral valve is within the left posterior region and tricuspid valve right anterior cardiac region. When calcified the valves may be dimly seen and bob up and down with cardiac pulsation. Aortic and pulmonic semilunar valves are slightly more superior and show little or no movement during pulsation.

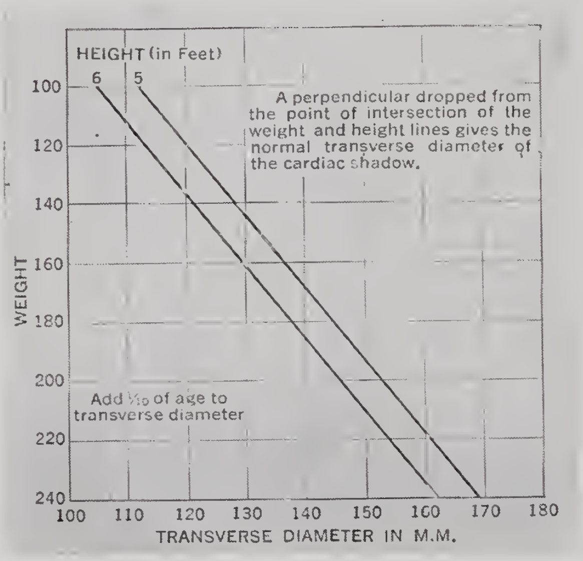
Fluoroscopy permits visualization of all contours of the heart while rotating the patient behind the screen. Calcifications in diseased valves are more readily seen and strength and coordination of cardiac pulsation can be observed and studied. Heart size is readily perceived although it is magnified about 15 to 20% due to the short tube-screen distance. Cardiac outline can be traced with a special fluoroscopic arrangement which permits a small cental beam of rays to be moved about the periphery of the heart across a stationary screen.

Roentgenograms of the chest, on the other hand, provide a permanent analyzable record of cardiac size and contour. Status of the other thoracic viscera and bony thorax are simultaneously protrayed. Progressive cardiac enlargement or return toward normal size can be accurately determined by comparison of serial films. Esophograms made while swallowing thick barium suspension permit accurate measurement of aorta at the arch and show relative size of left auricle in a lateral or right anterior oblique projection. The left anterior oblique projection silhouettes the left and right ventricles simultaneously.

Cardiac size is customarily established by a so called teleoroentgenogram—a postero-anterior projection made at a six foot tube-film distance. There is relatively little difference beween the magnification at six feet (4 to 6%) and five feet (5 to 8%). A really misleading magnification occurs in an anteroposterior projection at 30 inches (15 to 20%). Thin chests give relatively less distortion of recorded size. Many formulae have been advanced for expressing cardiac size. The time honored ratio of transverse cardiac width to width of thorax at diaphragm fails to correct discrepancies produced by high diaphragm or long slender thorax and should be discarded. The simplest and most reliable formula relates transverse diameter of heart to height, weight and age of patient by a convenient reference chart, (see chart).

Cardiac enlargement may be due to: (1) hypertrophy from carrying a persistently increased circulatory load; (2) dilatation from diffuse myocardial damage, or (3) distention of pericardium with fluid. Hypertrophy differs from dilatation in showing increased instead of diminished pulsations and in presenting clear muscular demarcation of chambers in contrast to the baggy, triangular or rounded heart of dilatation. Moderate degrees of myocardial dilatation and pericardial effusion may not be separable. The contour of pericardial effusion tends to be somewhat more bulging in outline, more protruding along the right border, fuller through the inferior retrocardiac space and with more enfeeblement of pulsations. In certain cardiac lesions, for example in rheumatic heart disease, pericardial effusion, myocardial dilation and hypertrophy may each contribute to the enlargement evident in one cardiac shadow. Myocardial dilatation may result from diffuse narrowing or occlusion of the finer coronary branches, from myocarditis as in rheumatic fever, from metabolic disturbances as in hypothyroidism or beri-beri, and various other conditions. The etiology of gross myocardial damage frequently cannot be ascertained from radiological findings.

Location of a cardiac lesion can be frequently apprehended by observing: (1) diffuse cardiac enlargement; (2) local enlargement of one or more chambers; (3) alteration of cardiac pulsation; (4) calcification in valves, vessels or pericardium; (5) changes in adjacent structures such as notching of posterior ribs in coarctation of aorta, congestion and hydro-thorax in decompensation, and splenomegaly in subacute bacterial endocarditis. Local enlargement of a chamber points toward a lesion directly distal to the enlarged chamber. The lesion at fault may produce enlargement through increased resistance (valvular stenosis or vascular constriction) or increased volume flow (valvular leakage or arteriovenous shunt). In general, enlargement of left auricle indicates mitral stenosis. Ioslated enlargement of right ventricle indicates congenital heart disease effecting pulmonic circulation. Enlargement of left ventricle may result from hypertension, aortic disease or coarctation of aorta. Mixed lesions produce scrambled cardiograms. In advanced cardiac disease the primary lesion is often overshadowed by pronounced myocardial dilatation.



The character and quality of cardiac pulsations frequently aid in differential diagnosis. In aortic insufficiency, left ventricular and aortic pulsations are visibly increased while they are decreased and prolonged in aortic stenosis. Vigor of pulsations is a good index of myocardial capacity. Rheumatic valvular disease can often be confirmed by recognition of calcification in the involved valve leaflets. Calcification in a pericardium occasionally serves to identify an adhesive pericarditis.

Coronary disease is often suggested but cannot be accurately diagnosed or excluded by usual radiological methods. Fluoroscopy usually shows a general enfeeblement of cardiac pulsations. The infarcted area shows absent or paradoxical pulsations and on rare occasions the infarcted wall may herniate, a so-called cardiac aneurism. Alterations of cardiac pulsation in coronary disease can be convincingly demonstrated by the roentgen-kymograph. This mechanism graphically records the amplitude and timing of cardiac pulsations. The exposure is made through a series of parallel slits during movement of the film or the over-laying slits. The plain roentgenogram following coronary insult commonly shows a bulging fullness or flattening-out of the upper left convexity of the cardiac contour. Gross enlargement of the heart following coronary occlusion is observed infrequently and its absence is of no prognostic value in coronary disease.

X-ray examination of the diseased heart is frequently of distinct value in prognosis through its demonstration of the physiological changes and pathological lesions. Reduction of heart size toward normal in the patient convalescing from rheumatic fever, thyroid disease or other myocardial damage is reassuring. Progressive cardiac enlargement under good medical care is ominous. Grossly enfeebled or locally absent cardiac pulsations when coupled with angina is discouraging. Recognition of mitral stenosis in a patient with cardiac decompensation is in general a favorable sign. In contrast recognition of aortic disease in association with decompensation is very unfavorable since compensation is rarely regained. The demonstration of adhesive pericarditis, suppurative pericarditis or patent ductus arteriosus offers the possibility of relief following expert surgery in these occasional although incapacitated patients. An adequate background for reliable prognosis requires a judicial correlation of clinical findings and radiological deductions regarding the efficiency and reserve of the cardiac mechanism.

The Place of Electrocardiography in the Examination of the Heart

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The purpose of this discussion is not to enter into the interpretation of electrocardiograms but only to attempt to outline the role which electrocardiography properly plays in the general heart examination, to discuss the ways in which it may be helpful and the conditions in which it is indispensable. It is important to have a clear understanding of these principles in order that this valuable, and now common, method of examination may be properly used, in order that it may be used where indicated and that the information which it yields may be properly evaluated. While it is true that no cardiac examination is complete without an electrocardiogram, there are many instances in which satisfactory conclusions can be reached without its use, and other instances in which the information which it gives could better be obtained in other manners. The electrocardiogram should never be used to displace other parts of the heart examination such as an accurate history and careful physical examination, but rather should be used to supplement these procedures, confirming in some cases and adding new information in others.

An electrocardiogram is a record of the electromotive activity of the heart, exactly standardized and calibrated. A normal heart produces a well known pattern. Any pathology, functional or organic which alters or interferes with the electrical activity of the heart produces corresponding changes in the electrocardiogram and conversely any cardiac pathology which does not affect the electromotive activity of the heart will not produce changes in the electrocardiogram, for example, many valvular lesions.

In general it may be stated that in young persons if the history and physical examinations are normal, one can be quite sure that the electrocardiogram will be normal. In older persons this is not always true because some degree of coronary sclerosis may be present without symptoms, signs or history and may be disclosed by the electrocardiogram alone.

In earlier days electrocardiography was used chiefly in the study of cardiac arrythmias and due to this study our conception of arrythmias has been clarified so that most of them can now be classified by clinical study alone. In such cases electrocardiography is confirmatory. In cases in which the arrythmia cannot be classified by clinical study alone, electrocardiography can make the diagnosis with certainty. In general it may be stated that the electrocardiogram can classify all arrythmias accurately, and that some of them can be accurately classified only by electrocardiography. There are many other arrythmias that can be classified by clinical study alone provided the clinician has sufficient experience and skill, so that the more skillful the clinician is, the less he will be obliged to rely on the electrocardiogram.

The electrocardiogram may be of definite assistance in the diagnosis of obscure cases of rheumatic fever in young persons. It sometimes happens that cases of rheumatic fever may develop without any joint symptoms and without cardiac findings, only an obscure and unexplainable fever being present. The electrocardiogram may show definite evidence of cardiac involvement before any physical signs make their appearance in the heart, thus enabling the clinician to make the correct diagnosis before it would be possible otherwise. Electrocardiography is also of definite value in the course of other acute infectious diseases in childhood in enabling one to recognize cardiac involvement which might otherwise be overlooked. The only evidence on the electrocardiogram may consist of a prolongation of the auriculo-ventricular conduction time. With this information available the physician may more skillfully manage the convalescence, so as to protect the heart muscle.

One of the most valuable uses of electrocardiography is in the study of coronary lesions. In very early cases of coronary sclerosis in which the pathology is not very extensive, the electrocardiogram may yield the only evidence, and this evidence may be present for a considerable time before signs or symptoms appear. Because of this fact the electrocardiogram is of great importance in the routine examination of persons who have reached middle age when coronary lesions are apt to make their appearance and it is worthwhile including a routine electrocardiogram in the periodic health examinations of persons in this age group. In cases of coronary sclerosis with confusing signs and symptoms, the electrocardiogram may be of great assistance in differential diagnosis. Gall bladder lesions and coronary lesions may have many symptoms in common. In coronary thrombosis with cardiac infarction, the electrocardiogram is also of great value. It can make or confirm the diagnosis, it can localize the site of infarction by giving definite evidence as to whether an anterior or a posterior branch of the coronary artery in occluded, and it can play a definite role in prognosis and aid in the skillful management of convalescence by showing whether or not the lesion is healing.

The principle value of the fourth lead is in the study of coronary lesions. The evidence on the fourth lead is in some instances the only evidence of coronary sclerosis, it is frequently the first sign to appear, and in the case of coronary infarction it may be the last evidence to disappear as the lesion heals.

The electrocardiogram is also of value in determining the extent of digitalization in the treatment of congestive heart failure. Evidence of digitalis effect appear on the electrocardiogram before clinical signs of toxicity appear. Ordinarily digitalization can be controlled readily by clinical signs and symptoms alone, but in some cases the expected response does not occur and in these cases accurate information as to the extent of digitalization may be obtained by electrocardiographic study and thus prevent failures from under digitalization or dangerous toxic reaction from overdigitalization.

In addition to the many instances in which electrocardiography is an elective procedure, there are certain instances in which it is indispensable because it is the only means of making the diagnosis. First degree heart block which consists of a prolongation of the auriculo-ventricular conduction time can be recognized only by means of the electrocardiogram. This condition may occur in young people following acute infectious diseases and in older people due to degenerative diseases. Slight degrees of myocardial damage also are recognized only by means of the electrocardiogram as well as bundle branch block which is of considerable importance since it indicates serious pathology and has a bad prognosis. In addition to these common conditions there are many uncommon conditions which can be recognized only by the electrocardiogram and none of which is of very great importance clinically. Since conditions in this group cannot be recognized clinically it is important, if they are ever to be discovered, that the electrocardiogram be used in those instances in which they are likely to occur.

Because the electrocardiogram so frequently discloses unsuspected cardiac pathology in older persons, its use is of considerable value preoperatively in attempting to estimate the risk of major surgical procedures in those past middle age.

SUMMARY

1. The electrocardiogram supplements the other parts of the heart examination and does not displace any of them.

2. It is useful in classifying arrhythmias.

3. It is useful in determining the affect on the heart of acute infectious diseases.

4. It gives valuable information in the study of coronary artery disease.

5. It is useful in the study of the effect of digitalis on the heart.

6. There are certain conditions that can be recognized only with the aid of the electrocardiogram.

* * *

"In these days when we are all confronted with a question of shortages in various commodities and an increase in the price of those obtainable, we are happy to announce that not only will we continue to carry our policyholders at no increase in the cost of their accident and health insurance but we adopted a resolution to the effect that there shall be no restriction under our policies by reason of Army, Navy or Marine Service and this is irrespective of where such Service may take the policyholder."—Physicians' Casualty Association, Omaha.

Clinical Pathological Conference

Abdominal Lymphosarcoma

J. P. TOLLMAN, M. D. and EDITH EASON, M. D.
Department of Pathology, University of Nebraska,
College of Medicine
Omaha, Nebraska

A white male, aged 62, entered the University Hospital complaining of:

1. Masses in the neck for many years.
2. Swelling of the legs for 9 months.
3. Twenty pounds loss of weight in 6 months.
4. Enlargement of the abdomen for 2 months.

The patient has had enlarged cervical, axillary, and inguinal lymph nodes as long as he can remember. One sister has similar generally enlarged lymph nodes. Swelling of the legs appeared first on the right followed in a few weeks by the left. This usually increased through the day and subsided at night. Shortness of breath and enlargement of the abdomen have increased progressively since their onset.

Examination showed the patient well developed and nourished with discrete, firm, non-tender lymph nodes in the neck. The chest was flat to percussion. The abdomen was distended and tense. The liver was palpable 6 cm. below the costal margin. The legs showed pitted edema, more marked on the right than on the left.

Laboratory examination showed no anemia. The white count was 8,300 with an essentially normal differential.

Four days after admission a lymph node biopsy was made at which time the patient went into severe shock, and there developed progressively more difficult respiration with increased flatness of the chest.

AUTOPSY FINDINGS

The lymph nodes were enlarged in the neck, axilla, and inguinal regions. The peritoneal cavity contained 1500 cc. of fluid, the right thorax 2700, and the left thorax 3600 cc. of fluid. The lungs were atelectatic but not consolidated. The hilus of the lung and the mesentery showed numerous large lymph nodes ranging up to 3½ cm. in diameter. The markings on the cut surface of the liver was accentuated. Other organs were generally normal. There were very numerous retroperitoneal lymph nodes ranging up to 6 cm. in diameter.

Microscopically there were areas of lymphatic cell infiltration in the heart, lungs, pancreas, liver, and kidneys. Lymph nodes showed obliteration of all normal structures, the tissue being densely packed with comparatively uniform cells slightly larger than lymphocytes, and showing occasional mitotic figures.

DISCUSSION

Lymphosarcoma is a malignancy of the lymphatic system differentiated from other lymphatic malignancies primarily by the clinical course. It commonly appears to involve first one group of lymph nodes, gradually spreading to involve many others. The clinical findings depend mostly on mechanical features. As illustrated by this case, the enlargement of lymph nodes has interfered with circulation in one and then in another part of the body to produce: first the swelling of the legs; next, the enlargement of the abdomen; and terminally, the interference with pulmonary circulation and the development of massive hydrothorax. During the 9 months in which he was suffering from the disease there was comparatively little loss of weight, and he appeared very well nourished at the time of death.

The course of the disease is generally a progressive one with the majority of symptoms local in character. There is usually a moderate leukocytosis and in occasional instances a frank leukemic picture may develop. In this particular instance the blood differential was essentially normal. There had been apparently, however, metastasis by way of blood stream to account for the spread of heart, liver, kidneys, and pancreas. The majority of these cases appear in the later age groups, although the disease may appear at any period in life.

In the abdominal form which this case represents predominantly, two variations may appear. This case represents the retroperitoneal and mesenteric involvement, while other cases may involve primarily the lymphoid tissue of the bowel wall. In such instances disturbance of gastro-intestinal function is commonly the first manifestation.

The diagnosis and differential of these lymphatic tumors is a difficult one and rests eventually on the microscopic appearance of the tissue. Not infrequently Hodgkin's disease will pursue the same general course with no characteristic features to set the clinical course apart from the lymphosarcoma as seen in this patient.

There is no appreciable difference in the prognosis of lymphosarcoma as contrasted to Hodgkin's disease. The average duration of each is between two and three years, and the most frequent cause of death in both is toxemia and multiple visceral invasion. Therapy is essentially radiological. In the majority of cases some delay of the course of the disease may be obtained, and in a certain small proportion indefinite arrest of the disease appears to be accomplished. In occasional instances surgery may relieve local mechanical disturbances.

This case represents the abdominal type of lymphosarcoma with symptoms produced primarily because of lymphatic and vascular obstruction by the enlarged masses of tumor tissue. Death occurred from interference with pulmonary circulation.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical sevices and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

WHAT EVERY DOCTOR CAN AND SHOULD DO IN THIS WAR

Our country is engaged in a war against a combination of power and barbarism. The Nipponese stab in our back, while peaceful negotiations of Far Eastern issues were in progress, was a blow from which it has taken some time to recover. Judging by official bulletins from the War Department, and unofficial reports of radio and press, our armed forces are putting up a most valiant stand against savage enemy attacks on land, sea, and in the air. However, being on the defensive, outnumbered in manpower and material because of distance from home bases, loss of ground is inevitable regardless of fighting ability, strategy, and effort on the part of our defenders. Admittedly, therefore, our position and that of our Allies the first two months of the Pacific storm is enviable only in purpose and in potential strength, which is rapidly being massed.

The implements of modern war consist not only of guns and tanks and airplanes equipped with standard or special instruments for destruction. To these weapons must be added national courage and soundness of morale. In the latter phase the physician occupies a most important place. Aside from his professional duties, he must consider it his function to strengthen in whatever way possible, the equanimity and morale of the community or group which he serves. The doctor commands respect among his neighbors. They look upon him as a man not only of technical knowledge in his calling but also of adequate caliber to use judgment. It is for this reason that the physician must be constantly aware that what he says means more than what the average citizen puts out as having "heard." A doctor's word is usually interpreted as information. It is for this reason that physicians must be extremely careful in expressing their views on what they "happen to know." Whispering campaigns have long been a tool for spread of misinformation and confusion among the gullible. Physicians will exercise a patriotic duty in avoiding and counteracting statements or rumors which may serve to aid or comfort our enemies.

CARDIAC EXAMINATIONS

Cardiac diagnosis, like all other diagnosis, is a synthetic procedure based on evidence accumulated by various analytic processes. No single device, measure, or "short cut" has yet been brought forth. The notion, "We'll have an electrocardiogram made to see if there is anything wrong with the heart," gives the impression that an impersonal, infallible gadget has now arrived. Experience dispels this illusion even though the EKG does occupy an important place in a cardiac examination. Cardiologist and electrocardiographists point out that a graphic interpretation is not always reliable, and usually the signifcance of the EKG must be evaluated in the light of the clinical findings. The history, the physical examination, the roentgenogram and the electrocardiogram must all be considered in a cardiac diagnosis. In one instance, one part may furnish the essential facts, in another case, other procedures may bring the necessary information; in still others, all maneuvers contribute more or less equally in arriving at a final opinion. No treadmill, no stairs,—up or down or circular, no lifting of dumb-bells of known weight for measured distances, all of which seem accurate and scientific, have replaced the behavior of an individual doing his ordinary work, as factors upon which to base the functional capacity of an individual's heart. The history still records fatigue and breathlessness as the earliest signs of a failing heart, and the ominous nocturnal dyspnoea indicates the beginning of the end.

Congenital heart disease is recognized chiefly by the loudness of the murmur, the heart shape, and, frequently, the intense cyanosis. Rheumatic and syphilitic heart diseases are diagnosed and prognosticated by the history and duration, and the lapse of time since the initial rheumatic or other infection, together with the presence of murmurs, the size and shape of the heart. The latter features are frequently corroborated or identified by the x-ray. The relentless progressive enlargement of hypertensive heart disease is most accurately followed with roentgenolic studies, as can also the influence of therapy be demonstrated.

The EKG was first hailed on account of the accuracy with which it identified irregularities of the heart. Very soon this subject was so clarified by the EKG that arrhythmias can be identified by clinical features with a high degree of accuracy.

At present the most important field of electrocardiography is coronary artery disease. Frequently it is equally important with the history of an anginal syndrome, often it corroborates this sign, and occasionally it furnishes the only available evidence of the disease.

Studies based on clinical and electrocardiographic evidence have furnished important prognostic signs. The cases of acute myocardial infarction, studied by Levine and Rosenbaum(1), furnish important ultimate prognostic signs. The duration of survival of 101 patients known to have died, was one year for one-fourth of them, two years for one-half of them. Three-fourths of them died within the first five years. The remainder died between five and twelve years. Congestive failure occurred in 28 per cent of all 327 patients. (Of those who died it occurred in 43 per cent). In anterior infarction it occurred more frequently (35 per cent) than in posterior infarction (14 per cent). Thirty per cent returned to essentially full duty, 45 per cent to partial activity and 22 per cent to moderately reduced activity. Patients with anterior lesions did less well than patients with posterior lesions.

The average age of men was 53.3 years and 58.9 years for women. Disability rose progressively with advancing years. Survival period for those under 40 years of age was five years and three months as compared with 2 years and 6 months after 60 years of age. Women survived a much shorter time (one and one-half years) as compared with men (three years and eight months). The severity of the original attack was not a measure of survival, but severe attacks were followed by greater incidence of disability.

Patients exhibiting auricular fibrillation had less angina pectoris and more congestive failure, but about the same survival period as non fibrillators.

Angina pectoris, previous to acute infarction, rendered patients more vulnerable to subsequent angina and a greater incidence of disability, but did not shorten the survival period. Sixty-three per cent of all patients manifested this symptom between the early days of the onset to years later.

The length of survival period showed little difference between anterior and posterior infarction. Those showing QRS complexes of low voltage were less favorable, those showing partial and complete block still worse, and those with branch bundle blocks were least favorable.

Frederick W. Niehaus, M. D.,
Chr. Card. Vas. Dis.

1. Levine, S. A. & Rosenbaum, F. F.: Prognostic Value of Various Clinical and Electrocardiographic Features of Acute Myocardial Infarction, Arch. Int. Med., 68:1215-1231, Dec. 1941.

ANNOUNCEMENTS

The Fifth American Psychiatric Postgraduate Institute for state hospital men and other physicians interested in psychiatry will be held in Missouri State Hospital, St. Joseph, Mo., March 23 to April 4.

The institute will be conducted by men outstanding in psychiatry. It will cover the major and more recent developments in this field. Physicians are invited to attend. Dr. A. E. Bennett, one of the members of the Nebraska State Medical Association will participate in the Institute.

The American Congress on Obstetrics and Gynecology will be held April 6-10 in the Municipal Auditorium, St. Louis, Missouri. Leading gynecologists, obstetricians, nurses, hospital administrators, public health officials and medical educators are participating in the program. The material presented is designed to reach not only specialists but general practitioners, nurses and all those others interested in maternal care and the reduction of mortality and morbidity among mothers and newborn babies.

In the mornings joint sessions of all groups will last from 9:30 until 11:00 and from 11:00 to 12:00. Monday morning up to 11:00 will be devoted to registration.

Afternoon sessions for individual groups will extend from 2:00 to 3:00. The period from 3:30 to 5:00 is free but may be used for further individual group meetings or for round table discussions if so desired. The Personal Consultation Service will be in operation during this time. Forceps demonstrations will be given in the Scientific Exhibits during this part of the day as well as at noon.

For further information write to the office of the Congress, 650 Rush St., Chicago.

Chicago Selected for 1942 Clinical Congress of the American College of Surgeons

Because of the war, the thirty-second annual Clinical Congress of the American College of Surgeons will be held in Chicago, October 19 to 23, instead of in Los Angeles as originally planned. Headquarters will be at the Stevens Hotel. The twenty-fifth annual Hospital Standardization Conference sponsored by the College will be held simultaneously. The programs of both meetings will be based chiefly on wartime activities as they affect surgeons and hospital personnel in military and civilian service.

The American Association of Industrial Physicians and Surgeons, and the American Industrial Hygiene Association will hold their joint Annual Convention in Cincinnati from April 13 to 17, 1942. A program is in preparation in which important medical and hygienic problems associated with the present huge task of American industry will be presented and discussed in clinics, lectures, symposia, and scientific exhibits. The central purpose of the meeting will be to provide a five-day institute for the interchange and dissemination of information on new problems as well as for the consideration of up-to-date methods of dealing with those that are well known. The industrial physicians have taken responsibility for the program of the first two and one-half days and the hygienists for the remainder of the five days, but most of the subjects chosen for discussion will be of interest not only to physicians, but equally so to industrial engineers, and executives.

Physicians Needed in the Panama Canal Zone

Physicians are urgently needed at the Panama Canal—one of the nation's most vital defense areas. There is a splendid opportunity here for doctors to assist their country during the present emergency.

The U. S. Civil Service Commission has just announced an examination to secure physicians for these important positions. The entrance salary is $4,000 a year, and free transportation by boat or plane is furnished from port of embarkation, the salary beginning on the date of departure from the United States. Applications will be accepted by the Commission in Washington, D. C., until further notice. There is no written test.

Applicants must have been graduated from a Class A medical school with a degree of M. D. subsequent to May 1, 1920, and, in addition, must have had at least 1 year of experience in a hospital since graduation. Graduates from schools which require the completion of the internship before granting the M. D. degree (five-year schools) will be regarded as having met the hospital experience requirement. Applicants must not have passed their fiftieth birthday; however, because of the arduous duties in the tropical climate, applicants between 25 and 35 years of age are preferred.

Applicants must be in sound physical health; they must be active and capable of arduous work. Although appointees are required to pass a thorough medical examination, the physical requirements are not as high as for the army or navy service.

The duties of the position are to serve as District Physician in a small Government dispensary; have general supervision over all medical and surgical activities in the dispensary; operate a general medical and surgical clinic; examine persons entering The Panama Canal Service; visit patients day or night in their homes and on board ship; and to be in charge of business activities of the dispensary.

Further information is given in the announcements which may be obtained, with application forms, at any first or second-class post office, or from the U. S. Civil Service Commission, Washington, D. C.

NEWS and VIEWS

Captain "Bill" Shaw writing from Little Rock, sends an interesting clipping from the Arkansas Gazette describing the excellent work of the Medical Division in the Camp Robinson station hospital.

"From January 7, 1941, to December 31, 1941, 20,490 patients were treated with only fourteen deaths. Five of the latter group had been sent to the hospital in a critical condition from evacuation hospitals. There were 347 cases of pneumonia without a fatality. There were 349 cases of malaria, most of which had come from the Arkansas-Louisiana maneuvers. There were 155 dislocations and 693 fractures ranging from toe to spine. Among other unpleasant items were 812 cases of measles; 63 cases of scarlet fever, and 181 cases of mumps. There were 551 cases of appendicitis."

Outside of that, we take it, the medical staff did not have much to do.

Dr. J. D. McCarthy, Omaha, was elected president of the National Conference on Medical Service succeeding Harold M. Camp, M. D., of Monmouth, Ill. The organization held its annual conference in Chicago, February 15.

The Omaha-Douglas County Medical Society has organized a comprehensive program for civil defense under a committee headed by Dr. C. M. Wilhelmj, Dean of Creighton Medical School.

Dr. Vernon M. Winkle, formerly of Norfolk, and Dr. W. S. Petty, formerly of Sioux City, have become associated with the Nebraska State Health Department to fill the vacancies left by the recent resignations of Drs. Fred Long and D. M. Alderson.

Dr. H. Winnett Orr of Lincoln, attended the Academy of Orthopedic Surgeons at Atlantic City. While in the East, Dr. Orr addressed the New York Academy of Medicine.

The license of Harold A. Fenner, North Platte osteopath, was revoked February 10.

Dr. C. L. Fahnestock of Lincoln, was appointed Supervisor for Nebraska WPA Public Health Projects February 1.

The Native Sons and Daughters of Nebraska are holding a contest on the biography of a pioneer Nebraska doctor. According to the rules of the contest, a pioneer is "anyone engaged in the practice of medicine within the present boundaries of the state prior to 1890, or within the first twenty years of a community's life." The essay must not be longer than four thousand words. Any Nebraska resident is eligible. The time limit is June 30, 1942.

The Health Department of the city of Omaha is conducting a public health forum each month in the Joslyn Memorial. Cooperating in these forums are a group of health minded organizations, including Omaha-Douglas County Medical and Omaha District Dental Societies.

President Roosevelt has appointed Dr. George Baehr, Chief Medical Officer of the Office of Civilian Defense, to be a member of the Health and Medical Committee of the Office of Defense Health and Welfare Services. Dr. Irvin Abell, Louisville, Kentucky, chairman of the Committee on Medical Preparedness of the American Medical Association, is chairman of the Health and Medical Committee and other members are the Surgeon General of the U. S. Army, Major General James C. Magee; the Surgeon General of the U. S. Navy, Rear Admiral Ross T. McIntire; the Surgeon General of the U. S. Public Health Service, Dr. Thomas Parran, and the chairman of the Division of Medical Sciences, National Research Council, Dr. Lewis W. Weed, Baltimore. The Office of Defense Health and Welfare Services is a part of the Office for Emergency Management which in turn is part of the Executive Office of the President. The director of the ODHWS is Paul V. McNutt, who is also Federal Security Administrator.

MINUTES OF THE BOARD OF COUNCILORS MEETING

Jan. 18, 1942

In the absence of Dr. Neumarker, President of the Council, the Annual Mid-Winter Meeting of the Board of Councilors was called to order by Dr. H. S. Andrews, Past President of the Council. The following members of the Council were present: Drs. C. W. Way, H. S. Andrews, M. O. Arnold, J. B. Redfield, Clayton Andrews, A. A. Conrad, O. W. French, Warren Y. Thompson, E. L. Brush, G. W. Pugsley, W. E. Shook, President W. P. Wheery, President-Elect D. D. King, and W. R. Neumarker, who was seated shortly after the meeting was called to order.

There were also present at the meeting, Drs. George Covey, H. M. Jahr, A. L. Miller, R. W. Fouts, R. B. Adams, John Allen, R. Russell Best, W. S. Petty, Earle Johnson, J. D. McCarthy, E. S. Wegner, L. M. Stearns, James Kelley, E. W. Hancock, K. S. J. Hohlen, H. S. Morgan, P. H. Bartholomew, Harry Benson, and Mr. F. C. Asmus and Mr. M. C. Smith.

The first order of business was the election of a president. Dr. A. A. Conrad was nominated. A motion was made that the nominations be closed and Dr. Conrad be declared unanimously elected as President of the Council. Seconded and carried.

Dr. Conrad took the chair.

The election of a secretary was the next order of business. Dr. Clayton Andrews was nominated. A motion was made by Dr. Thompson that the nominations be closed and that Dr. Andrews be unanimously elected Secretary of the Council. Seconded and carried.

The minutes of the last meeting were read and approved.

The report from the F. S. A. Committee was called for, and Dr. Wegner gave a short verbal report on the work accomplished.

General discussion by Drs. H. S. Andrews, R. F. Decker, and Mr. M. C. Smith followed.

A motion was made by Dr. Neumarker that the report be accepted. Seconded and carried.

Dr. John F. Allen read the report of the Tuberculosis Committee.

A motion was made by Dr. Neumarker that the report be accepted and published. Seconded and carried.

A motion was made by Dr. Wherry that the report be referred to the Medical and Public Health Education Committee and that this committee be asked to approve it. Seconded and carried.

Dr. McCarthy read the report of the Speakers Bureau.

A motion was made that the report be accepted, with regrets, and referred to the House of Delegates. Seconded and carried.

Dr. R. W. Fouts gave a verbal report of the work done by the Legal-Medical Committee.

Some discussion by Dr. Clayton Andrews and Mr. M. C. Smith followed.

A motion was made by Dr. Thompson that Dr. Fouts' report be accepted. Seconded and carried.

Dr. H. S. Morgan read the report of the Maternal and Child Health Committee. General discussion by Drs. H. S. Andrews, D. D. King, H. S. Morgan, J. B. Redfield, O. W. French and Harry Benson followed.

A motion was made by Dr. C. W. Way that the Maternal and Child Health Committee be authorized to express the approval of the Nebraska State Medical Association, through its Council, of the formation of additional maternal and child health demonstration units, if and when the local medical society has requested this action; it was further moved that the Council of the Nebraska State Medical Association approve the continuation of the postgraduate circuit courses in maternal and child health. Seconded and carried.

Dr. E. W. Rowe gave a verbal report of the Medical Economics Committee, stating that as they were in the midst of activities, he desired to tender a written report at the next meeting in May.

A motion was made by Dr. Thompson that Dr. Rowe's report be accepted. Seconded and carried.

Dr. J. D. McCarthy gave a verbal report of the Program Committee, especially calling attention to the fact that there was a lack of papers from local men for the Annual Assembly in May.

A motion was made by Dr. Redfield that we accept Dr. McCarthy's report. Seconded and carried.

President W. P. Wherry spoke to the Council, discussing affairs of the association in general.

Dr. James Kelley read the report of the Cancer Committee.

A motion was made by Dr. Brush that the report be accepted. Seconded and carried.

Dr. Earle Johnson gave a verbal report of the Insurance Committee.

A motion was made by Dr. Thompson that this report be accepted. Seconded and carried.

Dr. R. W. Fouts read the report of the Committee on Medical-Legal Advice.

A motion was made by Dr. Pugsley that this report be accepted. Seconded and carried.

The report of the Committee on Journal and Publication was called for and Dr. Adams read the report submitted by the editor, Dr. H. M. Jahr.

A motion was made by Dr. Shook that Dr. Jahr's report be accepted. Seconded and carried.

Dr. Covey read the report of the Committee on Medical and Public Health Education.

A motion was made by Dr. H. S. Andrews that we accept Dr. Covey's report. Seconded and carried.

Dr. Adams read a telegram he had received from Dr. Olin West, explaining changes in procedure of the Procurement and Assignment Committee.

The report of the Secretary-Treasurer was called for and read by Dr. Adams.

A motion was made by Dr. Neumarker that the report be accepted and published. Seconded and carried.

Dr. Covey read the report of the Board of Trustees.

A motion was made that this report be accepted and published. Seconded and carried.

The report of the Executive Secretary was called for, and before giving his report, Mr. Smith called attention to the map showing distribution of population in Nebraska, asking the help of each councilor in setting out the trade areas around the towns in each district, so that such information may be accurate and can thus be used to determine the number of doctors needed in each community. This map can then be used in giving information to the Procurement and Assignment Service.

A motion was made to defer discussion and questions relative to the map and the Executive Secretary's report until after dinner. Seconded and carried.

After recess the meeting was again called to order by President Conrad.

A short discussion of the Executive Secretary's report ensued.

A motion was made by Dr. Thompson that Mr. Smith's report be accepted and published. Seconded and carried.

Dr. D. D. King, President-Elect, presented for confirmation of the Board of Councilors his selections for the various appointive committees.

A motion was made by Dr. Neumarker that Dr. King's selections be approved. Seconded and carried.

The report of the Delegate to the A. M. A. was called for, and permission was asked that this report be given to the House of Delegates in the spring.

Dr. R. F. Decker read the report of the Speaker of the House of Delegates.

A motion was made by Dr. H. S. Andrews that Dr. Decker's report be accepted, and that we recommend his suggestion be adopted as procedure. Seconded and carried.

The report of the Student Loan Fund Committee was read by Secretary Adams.

A motion was made by Dr. Pugsley that the report be accepted; it was further moved by Dr. French that we suggest the committee write to the Secretary where each delinquent borrower resides and get information as to his financial standing. Seconded and carried.

A letter from the Chairman of the Committee on Allied Professions, which stated this committee had nothing to report, was read by Dr. Adams.

A motion was made by Dr. Shook that in view of Dr. Fouts' serious accident and prolonged recovery, we excuse him from making a report for the Delegate to the A. M. A. at this time. Seconded by Dr. King and carried.

Dr. Adams read a telegram from Dr. Sam F. Seeley, Washington, D. C., which asked the approval of Dr. Conrad, or to offer a substitute, as Chairman of the State Medical Committee of Procurement and Assignment Service.

A motion was made by Dr. Brush that Dr. Conrad be recommended for appointment by the Council as Chairman of the State Medical Committee of Procurement and Assignment Service. Seconded and carried.

General discussion relative to matters pertaining to doctors in military service followed, and Drs. Conrad and Fouts answered questions relative to the Procurement and Assignment Service.

A motion was made that the meeting adjourn. Seconded and carried.

NEBRASKA STATE MEDICAL ASSOCIATION AUDIT YEAR ENDING DECEMBER 31, 1941

Lincoln, Nebraska, January 12, 1942

Nebraska State Medical Association
Lincoln, Nebraska

Gentlemen:

We have audited the books and records of the Nebraska State Medical Association for the year ending December 31, 1941. Included in our report are the following exhibits and schedules:

Exhibit A—Analysis of Fund Balances, Year 1941.

Exhibit B—Statement of Receipts and Disbursements, Year 1941.

Schedule B-1—Statement of Receipts and Disbursements of the Annual Session, Year 1941.

Schedule B-2—Comparison of General Expense with Budget.

Exhibit C—Statement of Investments, January 1, 1941 to December 31, 1941.

Exhibit D—Journal Accounts Receivable as of December 31, 1941.

EXHIBIT A

The changes that took place in the fund balances during the year are presented in Exhibit A. The total fund balance on January 1, 1941 was $21,327.93. During the year reductions of $633.49 brought this balance down to $20,694.44 at the close of the year. This fund balance is represented by Cash in the National Bank of Commerce, Lincoln, Nebraska of $2,795.13 and Investments of $17,899.31.

The reduction in the fund balances of $633.49 was the result of a reduction in the investments of $2,215.51 and an excess of receipts over disbursements of $1,582.02. The excess of receipts over disbursements is shown in detail in Exhibit B. The reduction in investments is described in Exhibit C.

EXHIBIT B

The receipts have been divided into three sections. The first is General, total receipts of which were $12,571.32. The main items in this section are Membership Dues $10,700.00 and receipts from the settlement of a mortgage of $1,500.00. The second section is composed of receipts from the Journal. In this section receipts amounted to $6,098.83, the principal being sales of Advertising Space of $5,864.40. The third section is the net receipts from the Annual Session of $41.64, details of which are shown in Schedule B-1. Total receipts from all sources amounted to $18,711.79.

The disbursements are divided into two sections. The first section is called General and is made up principally of the General Office Salaries and Expenses. The total of General disbursements of $10,033.74 was divided principally as follows: Salaries $4,497.50; Traveling Expenses, $1,003.50; Rent, $619.99; Telephone and Telegraph, $856.87; Speakers Bureau, $201.64; Medico-Legal, $631.35; and Medico-Legal Emergency Fund, $1,000.00.

The General expenses are shown in detail in comparison with the budget in Schedule B-2. This comparison indicates an unexpended balance of $1,591.26 from the original budget figures.

The second section of disbursements is for the Journal, the total being $7,096.03. Principal items in this section are: Salaries, $1,536.00; Commissions, $1,104.40; and Publication Expense, $3,865.18. The item of Commissions is composed of the payment of the 1940 commission to the Executive Secretary and is in agreement with his contract with the Association, and some small amounts paid in connection with the sale of advertising space for the Annual Session issue of the Journal.

Total disbursements in all sections amounted to $17,129.77.

In Exhibit B no allocation of the income from dues has been made between divisions. As a consequence all receipts and disbursements have been combined into one statement with the exception of the Annual Session. Since the receipts and disbursements of the Annual Session were handled through a separate bank account a separate statement, Schedule B-1, has been made to show the details of these items and the net income has been carried as a single item to Exhibit B.

All receipts of income were traced to the Association's bank accounts left in the National Bank of Commerce, Lincoln, Nebraska. The total received from Membership Dues was proved to the total posted to the active membership accounts and to the membership cards issued. Test checks were made between postings to membership accounts and the letters of transmittal from the local associations. All cancelled checks were examined, and paid invoices and minutes of trustees meetings were examined for authorization of salaries and other disbursements. All securities were presented for our examination. We found that all interest collected from the securities had been included in the receipts. We confirmed the bank balance independently and it is our opinion that the cash and securities have been properly accounted for.

EXHIBIT C

A statement of investments and changes during the year is presented in Exhibit C. The balance at January 1, 1941 was $20,114.82, a detailed list of which is included in Exhibit C. During the year withdrawals of $159.02 were made from the United Savings and Loan Association accounts. Also during the year the John O. Wentworth mortgage of $2,500.00 was settled by the collection of $1,500.00, resulting in a loss of $1,000.00. This settlement was approved by the Board of Trustees.

Dividends received from other savings and loan accounts during the year amounted to $93.26. Also shown as income is the increment in redemption value of the U. S. Savings Bonds. Increment for prior years which had not previously been shown amounted to $236.25, and increment for the year 1941 totaled $112.00. Interest accrued on the Postal Savings has also been shown at $1.00 each for prior year and the year 1941. The net difference between reductions and increases constitutes the total reduction of $2,215.51 of the investment accounts for the year. The closing balance of $17,899.31 is comprised of securities shown in detail in Exhibit C.

Mr. M. C. Smith has $100.00 in his possession representing cash advanced to him for traveling expenses. This fund is replenished periodically upon presentation of traveling expense reports. The $100.00 is not included in any of the fund balances.

EXHIBIT D

The Association has accounts receivable amounting to $463.26 representing unpaid sales of advertising and engraving in the Journal. These accounts are shown in detail in Exhibit D. According to the Executive Secretary all these accounts are current and collectible. Since the Association is operating on a cash basis, these accounts have not been included as income in the books of the Association and are not included in the fund balances.

Should any further information falling within the scope of our report be desired we shall be pleased to supply it upon request.

Respectfully,

MARTIN & COLE

EXHIBIT A
ANALYSIS OF FUND BALANCE
January 1, 1941 to December 31, 1941

Total Balance January 1, 1941		$21,327.93
Represented by:		
Cash—National Bank of Commerce	$ 1,213.11	
Investments—See Exhibit C	20,114.82	
	$21,327.93	
Deduct:		
Net Reduction in Investments—See Exhibit C	2,215.51	
Less: Excess of Receipts over Disbursements—See Exhibit B	1,582.02	633.49
Total Balance, December 31, 1941		$20,694.44
Represented by:		
Cash—National Bank of Commerce	2,795.13	
Investments—See Exhibit C	17,899.31	
	$20,694.44	

EXHIBIT B
STATEMENT OF RECEIPTS AND DISBURSEMENTS
Year 1941

Cash Balance January 1, 1941			$1,213.11
RECEIPTS			
General:			
Membership Dues—Year 1941	$10,700.00		
Membership Dues—Year 1940	10.00		
Withdrawals—United Savings & Loan	159.02		
Interest Collected	202.30		
Settlem'nt, Wentworth Mtg.	1,500.00	$12,571.32	
Journal:			
Advertising Space	5,864.40		
Cuts	169.75		
Subscriptions	50.00		
Copies Sold	14.68	6,098.83	
Annual Session—See Schedule B-1		41.64	
TOTAL RECEIPTS		$18,711.79	
DISBURSEMENTS			
General:			
Salaries	$ 4,497.50		
Travel	1,003.50		
Office Expense:			
Rent	619.99		
Mimeograph	82.82		
Printing	124.95		
Postage	274.84		
Telephone & Telegraph	856.87		
Miscellaneous	209.28		
Councilor Expense	210.70		
Delegate to A. M. A.	106.05		
Reporter, Annual Session	50.00		
Committee Expense	34.05		
Audit Expense	52.50		
Office Equipment	77.70		
Speakers' Bureau	201.64		
Medico-Legal	631.35		
Emergency Fund—Medico-Legal	1,000.00	$10,033.74	
Journal:			
Salaries	1,536.00		
Commissions	1,104.40		
Publication Expense	3,865.18		
Envelopes and Inserts	280.94		
Engraving	117.51		
Press Clipping Service	42.00		
Miscellaneous Expenses	150.00	$ 7,096.03	
TOTAL DISBURSEMENTS		$17,129.77	
EXCESS OF RECEIPTS OVER DISBURSEMENTS			$1,582.02
CASH BALANCE, DECEMBER 31, 1941			$2,795.13

SCHEDULE B-1
STATEMENT OF RECEIPTS AND DISBURSEMENTS
Annual Session 1941

Income:		
Exhibit Space	$1,475.00	
Banquet	446.50	
Luncheon	126.35	$2,047.85
Expenses:		
Banquet	557.50	
Golf Tournament and Shoot	83.00	
Luncheon	131.25	
Programs	118.49	
Ladies Auxiliary	22.92	
Guest Speakers	361.50	
Miscellaneous and Entertainment	711.55	$2,006.21
Net Excess of Income over Expense—Carried to Exhibit B		41.64

SCHEDULE B-2
COMPARISON OF GENERAL EXPENSE WITH BUDGET
Year 1941

	Budget	Expense	Unexpended Balance
Salaries	$ 4,600.00	$ 4,497.50	$ 102.50
Travel	1,000.00	1,003.50	3.50*
Office Expense:			
Rent	625.00	619.99	5.01
Mimeograph	275.00	82.82	192.18
Printing	250.00	124.95	125.05
Postage	350.00	274.84	75.16
Telephone and Telegraph	850.00	856.87	6.87*
Miscellaneous	250.00	209.28	40.72
Councilor Expense	350.00	210.70	139.30
Delegate to A. M. A.	200.00	106.05	93.95
Reporter, Annual Session	150.00	50.00	100.00
Committee Expense	225.00	34.05	190.95
Audit Expense	75.00	52.50	22.50
Student Loan Fund	100.00		100.00
Office Equipment	150.00	77.70	72.30
Speakers Bureau	375.00	201.64	173.36
Medico-Legal	800.00	631.35	168.65
Emergency Fund—Medico-Legal	1,000.00	1,000.00	
	$11,625.00	$10,033.74	$1,591.26

*Indicates Negative.

EXHIBIT C
STATEMENT OF INVESTMENTS
January 1, 1941 to December 31, 1941

Balance on Hand January 1, 1941		$20,114.82
Consisting of:		
William H. Harms Loan Peters Trust Company 6% —Face Value $1,000.00	$ 1.00	
Zannie X. Marshall Ctf. No. 577, 6%—Face Value $370.00	1.00	

John O. Wentworth Real Estate Mortgage Bond			2,500.00	
Omaha Loan & Building Association			1,447.36	
Nebraska Central B. & L. Association			777.81	
Conservative Savings & Loan Assn.			1,295.12	
United Savings & Loan Assn.			1,749.19	
Standard Savings & Loan Assn.			674.59	
U. S. Treasury Bonds 2¾%			400.00	
U. S. Treasury Bonds 2⅞%			4,500.00	
U. S. Treasury Bonds 3%			500.00	
U. S. Treasury Bonds 3⅛%			150.00	
U. S. Treasury Bonds 3¼%			1,850.00	
U. S. Savings Bonds Maturity Value $5.625.00			4,218.75	
Postal Savings Bonds			50.00	
			$20,114.82	
Reductions:				
Withdrawals:				
United Sav. & Loan Assn.		$ 159.02		
Settlement of John O. Wentworth Real Estate Mtg.:				
Cash Received	$1,500.00			
Loss on Settlement	1,000.00	2,500.00	2,659.02	
Additions:				
Dividend Credits:				
Omaha Loan & Building Assn.	$ 43.73			
Nebraska Central B. & L. Assn.	23.50			
Conservative S. & L. Assn.	26.03	93.26		
Increment in Value—U. S. Sav. Bonds:				
Prior Years	236.25			
Year 1941	112.00	348.25		
Interest Accrued—Postal Savings:				
Prior Years	1.00			
Year 1941	1.00	2.00	443.51	
Net Reductions				$ 2,215.51
Total Balance December 31, 1941				$17,899.31
Consisting of:				
William H. Harms Loan Peters Trust Company 6%—Face Value $1,000.00			$ 1.00	
Zannie X. Marshall Ctf. No. 577, 6%—Face Value $370.00			1.00	
Omaha Loan & Building Association			1,491.09	
Nebraska Central B. & L. Assn.			801.31	
Conservative Savings & Loan Assn.			1,321.15	
United Savings & Loan Assn.			1,590.17	
Standard Savings & Loan Assn.			674.59	
U. S. Treasury Bonds 2¾%			400.00	
U. S. Treasury Bonds 2⅞%			4,500.00	
U. S. Treasury Bonds 3%			500.00	
U. S. Treasury Bonds 3⅛%			150.00	
U. S. Treasury Bonds 3¼%			1,850.00	
U. S. Savings Bonds—Issue Price $4,218.75—Maturity Value $5,625.00			4,567.00	
Postal Savings Bond—Issue Price $50.00			52.00	
			$17,899.31	

EXHIBIT D

JOURNAL ACCOUNTS RECEIVABLE

December 31, 1941

Advertising Space:			
Fontenelle Hotel		$ 12.00	
Lincoln General Hospital		20.00	
Mrs. Carl Shaffer		2.12	
Cooperative Medical Advertising Bureau:			
Mead. Johnson and Company	$ 60.00		
Petrogalar Laboratories	26.67		
The Upjohn Company	20.00		
Parke-Davis and Company	20.00		
Holland-Rantos	20.00		
Philip Morris	23.00		
Radium and Radon Corporation	4.00		
Colwell Publishing Company	8.00		
Seiler Surgical Company	4.00		
Physicians Optical Service	4.00		
Eli Lilly	30.00		
S. M. A. Corporation	26.67		
General Electric X-Ray Corporation	23.00		
John Weyeth and Brother	15.00		
Merck and Company	20.00		
Cook County Graduate School	7.00		
Laboratory of Clinical Pathology	7.00		
Physicians Casualty Association	7.00		
Ralph Sanatorium	7.00		
Luzier's, Inc.	20.00		
R. J. Reynolds Tobacco Company	40.00	392.34	426.46
Engraving:			
Drs. Godgoud and Henske		$ 4.40	
Dr. A. F. Tyler		11.60	
Dr. V. M. Winkle		20.80	36.80
			$463.26

The Use of Cerebrospinal Fluid Examinations in the Management of Syphilis

By L. O. Vose, Director, Division of Laboratories,
State Department of Health, Lincoln, Nebraska

During 1941 the State Laboratory secured positive results for syphilis on 4,768 blood specimens and 236 spinal fluids. Bloods were submitted by a high percentage of the physicians of the state; cerebro-spinal fluids by relatively few. This indicates a rather modest use of spinal fluid examinations in dealing with the problem of syphilis. In addition to cases of suspected neurosyphilis, there are other occasions in which laboratory examination of spinal fluids are justified.

The Wassermann Fast Case. As judged by the frequency with which instances are called to the attention of the laboratory, the "Wasserman Fast" individual presents a problem. Treatment believed adequate has here resulted in cessation of symptoms but serological tests persist in remaining positive. This may be discouraging to both the physician and the patient. Sometimes the latter refuses to continue treatment with the feeling that he is getting nowhere.

The "So-called" Asymptomatic Positive. Another situation is sometimes met when apparently normal individuals are subjected to serological tests—as for instance, expectant mothers, industrial groups or selectees for military service. A single positive result in a certain number of cases (one or two in a thousand) is due to clerical or typographical error and upon repetition of the test will be reported negative. Repeated positives require a thorough evaluation of the patient. However, even in the absence of any symptoms or clinical findings, there are a certain number of cases of purely asymptomatic syphilis that require treatment in order to prevent the late disastrous effects of syphilis. One of the most important diagnostic measures is a test of the spinal fluid.

The Case Under Treatment. Invasion of the central nervous system takes place in practically all cases of syphilis. The finding of a high percentage of spinal fluid changes and even positive serology in untreated and especially inadequately treated early syphilis substantiates this statement. Whether this invasion is transitory only or results in pathology depends on treatment and on individual resistance. Race and sex are the two most important factors in this resistance, the white male being the most susceptible to neuro-involvement. For instance, the Cooperative Clinical Group have shown that in untreated syphilis of white males, about 90% have developed central nervous system pathology.

Their reports also show that Wassermann fastness in early syphilis is often accompanied by involvement of the central nervous system. In late syphilis (over four years) areas of involvement are more frequently cardiovascular, visceral or osseous. If neuro-involvement previously existed, it has, in most cases, progressed until it is no longer subclinical. Management of a syphilitic case should normally include examination of the cerebrospinal fluid. Exceptions include certain aged individuals where treatment, if given, is only palliative and cases in which it might be dangerous to penetrate the spinal cord. Among such are pregnancy, cardiovascular syphilis, suspected brain tumor and those acutely ill. Advantages of spinal puncture early in the course of treatment lie in the prognostic value of the information gained and, in case neuraxis involvement is shown, this knowledge is useful as a guide to type of treatment. Discovery of subclinical central nervous system involvement—possible only through laboratory examination—aids in the prevention of symptomatic neurosyphilis.

When to Make Spinal Punctures. In early syphilis spinal puncture should be made first at the end of six months' treatment. In case this specimen is normal, another should be taken about a year after treatment has been discontinued. Where treatment has not been continuous, the first specimen should be taken early in the course of treatment and be repeated after twelve to eighteen months. In cases of late syphilis, puncture should be made soon following diagnosis unless there are contraindications.

Laboratory Examinations of Value. These are cell counts, globulin tests, the Wassermann or equivalent, and the colloidal gold test. It is best to collect the fluid in two tubes. The first may contain a small amount of blood but is satisfactory for the Wassermann test. The second portion is more suitable for the other tests.

Increased cells indicate tissue resistance to an infection. This is not specific for syphilis. To be of value cell counts should be made on fresh fluid, preferably within one hour after being drawn. In older fluids agglutination of cells makes the results valueless except for gross differences. Any count under five per cu. m.m. is normal. From five to ten is the doubtful zone. Over ten may be considered as pleocytosis.

Satisfactory technics for detecting increased globulin are Noguchi's butyric acid method and the Ross-Jones ammonium sulphate method. The former is more sensitive. Increased globulin indicates irritation of the meninges and is not specific for syphilis. However, in known syphilis and in the absence of other possibly causative conditions, increased globulin and pleocytosis can be considered beginning syphilitic pathology of the central nervous system.

There are several colloidal precipitation technics applicable to spinal fluid. Colloidal mastic and colloidal benzoin are the simplest to prepare. Colloidal gold is, however, to be preferred in laboratories equipped to make solutions of uniform sensitivity. These tests are generally considered non-specific. Eagle believes that the nature of the colloidal gold curve is determined by the ratio of globulin to that of albumin in the fluid. In our laboratory the colloidal gold test (paretic and stronger luetic curves) has shown closer parallelism to serological tests than it has to the protein factors.

Serological tests, Wassermann and flocculation tests, when positive in spinal fluid are considered absolute evidence of syphilitic involvement of the central nervous system. A negative test does not rule out involvement. When the amount of fluid permits, at least two different tests, as for instance, a Wassermann and a flocculation test, should be made. These tests show the presence but not the type of neurosyphilitic involvement.

Considered together these four tests indicate degrees of spinal fluid abnormalities varying from minimal in which only cells or cells and globulin are increased to maximal in which both of these are markedly increased, serological tests are strongly positive and the colloidal gold curve is the paretic type. However, the state of activity, degree and location of syphilitic pathology—the diagnosis—can be made by the physician only after considering both laboratory and clinical evidence.

REFERENCES

1. Eagle, Harry: The Laboratory Diagnosis of Syphilis, Mosby, 1937.

2. Moore, Earl: The Modern Treatment of Syphilis, Thomas, 1941.

3. Stokes, John: Modern Clinical Syphilology, Sanders, 1934.

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This is the first question many physicians ask the detail man, when a new product is presented.

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Under the rules laid down by the American Academy of Pediatrics, their new educational-to-the-public film "When Bobby Goes to School" may be exhibited to the public by any licensed physician in the United States.

All that is required is that he obtain the endorsement by any officer of his county medical society. Endorsement blanks for this purpose may be obtained on application to the distributor, Mead Johnson & Company, Evansville, Indiana.

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WOMAN'S AUXILIARY

President—Mrs. M. C. Green
2412 No. 53rd Street, Omaha, Nebr.
President-elect—Mrs. C. Fred Ferciot
Lincoln, Nebr.
First Vice-President—Mrs. A. L. Miller
Lincoln, Nebr.
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Treasurer—Mrs. Harry Flansburg
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Publicity Chairman—Mrs. W. H. Morrison
513 No. 41st Ave., Omaha, Nebr.

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

The regular board meeting of the Woman's Auxiliary to the State Medical Association will not be held as previously planned due to the war emergency and tire shortage.

Haddon Hall will be the headquarters for the Annual Meeting of the Woman's Auxiliary to the American Medical Association, which will be held in Atlantic City, New Jersey, June 8-12, 1942.

Requests for reservations should be sent immediately to Haddon Hall, Atlantic City, New Jersey.

Mrs. C. E. Abbott of Minden is new president of the Adams County Medical Association Auxiliary, as a result of elections held Febr. 4, 1942, at the meeting at Ingleside.

The Medical Association and Auxiliary met for a joint dinner, after which they separated for individual business meetings. Mrs. O. A. Kostal, retiring president, presided at the women's meeting.

Other new officers are Mrs. Juul C. Nielsen, vice president and Mrs. L. F. Egen, secretary and treasurer.

Plans for the coming year were discussed.

The Cass County Medical Auxiliary met Monday, January 12th, at the home of Mrs. J. W. Brendel, Avoca, Nebraska, Mrs. C. H. Arnold of Lincoln was a guest.

A lovely dinner was served by the ladies of the church to the Auxiliary members and the Medical Society.

Members of the Tri-County Medical Society and the women's auxiliary were entertained with a dinner January 29, in the banquet hall at the St. Francis hospital. During the dinner a choral group of student nurses sang vocal selections. Separate meetings of the two organizations followed the dinner.

Fifteen members of the auxiliary enjoyed colored motion pictures taken in Cuba, Florida, and California, shown by Mrs. J. E. Gelow. Out-of-town members attending were Mrs. A. D. Brown, Mrs. Fred Fouts, and Mrs. J. E. Benton, Central City; Mrs. R. R. Douglas, Clarks; and Mrs. D. B. Wingert, St. Paul.

The Woman's Auxiliary to the Omaha-Douglas County Medical Society met Tuesday, January 27, at the Medical Arts Building. Mrs. W. J. McMartin, chairman of the Administrative Committee of the Volunteer Office spoke on the Civilian Defense Council and its function and relationship with the Omaha Civilian registration. Mr. Robert Frazer also spoke on Defense Savings.

Members of the Omaha-Douglas County Medical Society were guests of the Auxiliary for lunch following the meeting.

Sulfadiazine Abstract Booklet
A Convenience to Physicians

With the usefulness of Sulfadiazine growing rapidly, it was felt that a booklet containing abstracts of significant recent articles would be of real convenience to physicians and others working with this important Sulfa drug. Accordingly, Lederle Laboratories, Inc., New York, N. Y., have recently made available a 64-page booklet, "Abstracts Selected from Published Articles on Sulfadiazine."

In order to compress significant material into a booklet of this size, every article on the subject appearing up to December 1, 1941, has been examined. Articles which contained only minor evidence as well as those which overlapped or reworked prior authorities have been eliminated. At the same time, no attempt was made to select the most favorable articles. The result is a terse, but authoritative review of material on Sulfadiazine arranged topically for convenient reference. In most instances selected articles have been condensed to one page or less. In every case, bibliographies are supplied for those wishing to study the articles in full. This new booklet is available through Lederle representatives, or on request from Lederle Laboratories, Inc., 30 Rockefeller Plaza, New York, N. Y.

DEATHS

Copsey, Dr. Herbert A., Alliance. Born in 1880 on a farm in Custer County, Nebraska. Died at his home in Alliance, January 14, 1942. Before attending medical school he taught school in Custer County for three years. Dr. Copsey was graduated from the Lincoln Medical College in the class of 1906. He located in Alliance a few months after graduation and practiced there continuously until the time of death. He served as captain in the World war. He was a member of the American College of Surgeons and for the last 20 years enjoyed one of the largest medical and surgical practices in western Nebraska. He was one of the leaders in the organization of the St. Joseph's Hospital of Alliance and served as president of the staff for a number of years. He was president of the county medical society at the time of his death.

Courtesy Omaha World Herald

DR. HERBERT A. COPSEY

Surviving are his wife and one daughter, wife of Dr. J. F. Kennedy who was associated with Dr. Copsey in practice for the past six years and now is a captain in the United States Army and located at Fort Leonard Wood.

A Tribute to Dr. Copsey

By E. I. Whitehead, M. D., Alliance

Someone has said, "That life is the narrow vale that lies between the cold and barren peaks of two eternities, one the boundless past, the other the endless future." This valley of life is what we make it. Dr. Copsey chose to make his resplendent with sunshine and happiness for others and rich in service to mankind.

The Doctor was born and reared on a farm, accustomed to the hard, rugged ways of the farm. In early manhood he became interested in baseball and by the time he was prepared to enter college he was among the best players in the state. On the baseball diamond he learned self-reliance and good sportsmanship, qualities which stayed with him all his life. It was clean sportsmanship that made him a clean competitor throughout his professional career.

He attended and was graduated from a small but good medical school at a time when interneships were almost unknown, consequently he had to come up the hard way. When he came to Alliance he had no modern, well-equipped office and no older, experienced physician to advise and guide him. He had to plod his own way and rely on his own common sense and good judgment, reading over and over again the few medical books he had brought with him. However, it was this hard road he had to travel that had very much to do with making him the good and able physician and surgeon that he later became.

He used to enjoy telling about a ball club offering him more money to play one game than he was making in a week in his practice but he preferred to stay with his chosen profession. I have no doubt these few years of hardships and privations did much to increase his kindness and affection for the poor and sick. Longfellow in Evangeline says, "Talk not of wasted affections, affection was never wasted. If it does not enrich the heart of another, it's water returning back to it's spring, like the rain shall fill them full of refreshments. That which the fountain sends forth returns again to the fountain."

So with Dr. Copsey, he gave freely of his kindness and affection to rich and poor alike. No night was too dark, no sky too starless to keep him from making a call on the deserving poor. When he returned from California this winter he knew he was endangering his health but he felt it was his duty. He came for others, not for himself.

Finally the end came, the pitcher was broken at the fountain, Dr. Copsey would have had it no other way.

He passed away as he lived, devoted and true to his profession. If he were living today he would be glad to say with Tennyson:

Sunset and evening star,
  And one clear call for me!
And may there be no moaning at the bar,
  When I put out to sea.

Twilight and evening bell,
  And after that the dark!
And may there be no sadness of farewell,
  When I embark;

For tho' from out our borne of Time and Place
  The flood may bear me far,
I hope to see my Pilot face to face
  When I have crossed the bar.

Cooper, Dr. James R., Richmond, Indiana. Born, 1903, in Council Bluffs, Iowa. Graduated from the University of Nebraska Medical College in 1932. Following an internship in St. Paul, Minnesota, he located in Falls City, 1934. In 1938, he joined the staff of the Tuberculosis Hospital in Kearney, where he remained until a year ago when he became the superintendent of the Tuberculosis Hospital in Richmond, Indiana. Death came February 8, 1942. Surviving are the widow and two children.

Clarke, Dr. Harvey L., Fairbury. Born in Canada, 1858. Graduated from the University of Michigan Medical College and from the New York Medical College in 1884. He located in Fairbury in 1886, and became prominent in medical circles along with the other pioneer physicians in the Missouri Valley. In addition to his professional activities, Dr. Clarke was always an outstanding citizen serving on the various community interests. He died on February 3, 1942. Surviving are the widow, two sons, Dr. Corwin Clarke of Jackson, Michigan, and Dr. Harvey L. Clarke, Jr., of North Platte, and three grandchildren.

Courtesy Lincoln Star

DR. HARVEY L. CLARKE

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

On January 20, 1942, members of the **Lancaster County Medical Society** held a regular meeting with forty-seven members present. Dr. B. A. Finkle in the chair. Minutes of the last meeting stood approved as read. A short meeting of the Board of Trustees was held preceding the regular meeting at which time Dr. J. J. Hompes moved, and seconded by F. D. Coleman, to reelect the Custodian, Curator, and Librarian as of the year 1941. This action was approved at the regular meeting. Dr. Hompes also read the annual report of the Board of Trustees for 1941. Moved that it be accepted by those present.

Dr. C. H. Arnold gave the first paper on "Operation for Recurrent Inguinal Hernia." Dr. Arnold is using the technique of Dr. Turner of Guys Hospital, London, where he had studied for some time. This was a very interesting paper and was illustrated by diagrams and slides. Later two cases were shown by moving picture giving the details of the technique. In some thirty-five cases in his hands, Dr. Arnold has had only two recurrences. Discussion followed by Drs. W. W. Carveth and T. F. McCarthy.

"Carcinoma of the Rectosigmoid" was the title of a paper presented by Dr. C. C. Hickman. Cancer in this area makes up 4% of cancer in the entire body. He emphasized the fact that polypoid growths are potentially malignant and stressed the importance of accurate diagnosis in these cases. In 64 cases; 24 refused treatment, 6 were treated by x-ray and radium along with 21 colostomies. Six are living after 4-6 years following surgery. Dr. J. M. Neely, C. H. Arnold, J. C. Thompson, E. W. Rowe, and J. J. Hompes discussed the paper.

Dr. M. F. Arnholt discussed the activities of the City Health Department from its beginning in 1889 to the present time. He mentioned the many new departments which have been added as well as the problems of the city physician. Discussion by Drs. Hompes, Rowe, and Covey.

Meeting adjourned 9:30 p. m.

F. D. Coleman, Secretary.

Dr. B. A. Finkle presided at the **Clinical-Pathological Conference** on February 3, 1942, when forty-two members were present. Minutes of the last meeting stood approved as read.

Dr. D. D. Sanderson was chairman of the meeting sponsored by the staff of St. Elizabeth's Hospital. The first case, presented by Dr. Baldwin, an intern, was the case of a fifty-nine year old female with an enlarged and fibrillating heart. There was a large mass in the abdomen reaching to the umbilicus, which proved to be a large ovarian cyst. Patient had a subnormal temperature most of the time, blood pressure 160/80, pulse 50-70. She was digitalized. She died suddenly two hours after removal of the ovarian cyst and subtotal hysterectomy. Pathology given by Dr. H. Blum. Diagnosis: Posterior coronary sclerosis and shock. Discussed by Drs. E. B. Reed and O. A. Reinhard.

The second case was presented by Dr. George Lewis. That of a male age 60, postal clerk, with an associated hypertension of 180/100. He had had two operations for duodenal ulcers. Died following attack of coronary heart disease. Pathology, given by Dr. Blum, revealed marked enlargement of both mammary arteries, an embolus (not a thrombus) in left coronary (?), and old, healed, duodenal ulcers. A distinct coarctation of the aorta had been diagnosed at Rochester sixteen years ago. The gross specimen of the heart was shown. Discussed by Drs. J. M. and Marshall Neely.

Meeting adjourned 9:05 p. m.

F. D. Coleman, M. D., Secretary.

The **Adams County Medical Society** held its regular monthly meeting on the evening of February 4th, 1942, at the Hastings State Hospital, Ingleside, Nebraska.

After a short business meeting an interesting paper was presented by Mr. Donald Brooke, Ph. D. of Hastings, Nebraska, on "Drug Shortage Due to War Conditions." He compared the United States with the British in their shortage of a few of the well known drugs.

A regular meeting of the **Five-County Medical Society** was held on February 5, 1942 at the Stratton

Hotel, Wayne, Nebraska. Dinner was served to twenty-five members, their wives, and guests.

Dr. W. R. Blume of South Sioux City arranged the scientific program, and the ladies were entertained by Mrs. Blume.

The scientific program was as follows: "Some Practical Considerations of Gallbladder Disease," Howard I. Down, M. D., Sioux City.

It was moved and seconded that the regular meetings of the **Five-County Medical Society** be held on the first Thursday of each month with the following exceptions:

May—No meeting because of the State Association Meeting.

July and August—No meetings.

September—Meeting to be held as the Fourth Councilor District Meeting, sponsored by the Six-County Medical Society, at Norfolk.

The **Tri-County Medical Society** met January 29, at Saint Frances Hospital in Grand Island. The scientific program consisted of:

1. Dr. Charles Tompkins of Omaha, "Common Sense Management of a Well Child."
2. Dr. Payson Adams of Omaha, "Treatment of Pyelitis."

Dr. J. G. Woodin presided. Twenty-five attended the meeting.

The **Tri-County Medical Association** (Burt, Dodge, Washington) met January 23, at Blair. Forty-six attended. The scientific session was as follows:

Dr. R. Russell Best, Omaha, "Diseases of the Biliary Tract."

Dr. Lucien Stark, Norfolk, "Classification of Heart Disease."

Madison Six County Medical Society met January 20, in the Hotel Norfolk. Dinner at 7:00 p. m. Program follows:

"The Constitutional Approach to Arthritis," with lantern slides, Dr. G. A. Young, Jr., Omaha.

"A Practical Approach to the Management of Well Patients," Dr. Charles A. Tompkins, Omaha.

The **Sixth Councilor District** met in David City, Monday, January 19. Dinner at 6:30 p. m. in the Perkins Hotel. The scientific program consisted of a panel discussion on "The Medical and Urological Aspects of Urinary Infections in Children. The program on February 16, was held in the auditorium in Seward and consisted of:

"Low Back Pain," by Fritz Teal and "The Management of Diarrhea in Infants," by Dr. E. W. Hancock. Both speakers are from Lincoln.

Garden-Keith-Perkins County Medical Society held their first regular monthly medical meeting January 12, in the party room of the Duchess Hotel. Seventeen doctors and their wives were present for the dinner.

Dr. O. R. Platte of North Platte was guest speaker and he discussed with the doctors, "Appendicitis, Its Complications and Treatment."

The **Fillmore-Saline County Medical Society** met at Wilber on January 26, in the American Legion Hall. Dr. F. C. Travnicek presided. The scientific program consisted of a paper by Dr. Stein of Lincoln on "Sedatives;" Dr. Hickman also of Lincoln, "Cancer of the Lower Bowl." Dr. A. A. Conrad spoke briefly on the "Procurement and Assignment for Doctors in the Armed Forces." Officers were elected for the year as follows: President, Joseph Bixbee of Geneva; Dr. F. G. Travnicek of Wilber, Vice President; Dr. V. V. Smrrha of Millegan, Secretary-Treasurer.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. T. B. Shrader has returned to his practice in Syracuse.

Dr. R. P. Ogden formerly of Hartington, has moved to Michigan.

Dr. Alfred G. Scheffel formely of Los Angeles, has located in Peru.

Dr. H. D. Kuper was elected president of the Leigh Commercial Club.

Dr. J. E. M. Thomson of Lincoln, addressed the Rotary Club of Falls City, February 10.

Dr. K. F. McDermott attended the University of Minnesota for refresher work in surgery recently.

Dr. F. Lowell Dunn was re-elected President of the Family Welfare Association of Omaha at the annual meeting of the organization in January.

The sympathy of the Journal goes to Dr. Harvey L. Clarke, Jr., of North Platte, on the recent death of his father in Fairbury; and to Dr. John H. Thomsen of Omaha on the death of his mother.

Dr. J. Dwight Davis formerly of Genoa, is the new medical director of Olive View Sanatorium at San Fernando, California. Dwight is the son of Dr. Homer Davis, former president of our association.

Dr. Sherman S. Pinto formerly of Omaha, and until recently connected with the Massachusetts State Division of Occupational Hygiene, is now supervisor of industrial hygiene with the state of Louisiana. Dr. Pinto is the son of Health Commissioner A. S. Pinto, of Omaha.

DOCTORS IN THE SERVICE

Dr. M. P. Anderson of Hay Springs, was recently promoted to a captaincy.

Captain J. L. Sandritter is the Chief of the Medical Division of his unit in a San Francisco hospital.

According to press reports, Dr. E. E. Koebbe of Columbus, a Lieutenant Commander in the Naval Reserve, has been called to active duty effective March 1, 1942.

Major Gilbert Struble formerly of Hastings, is Chief of Staff of the eye, ear, nose and throat service at Billings Hospital, Fort Benjamin Harrison, Indiana.

Dr. Ed Rich of Grand Island, is now Major Rich stationed at Chilkott Barracks in Alaska.

Dr. Richard Shaefer formerly of Omaha, is a Captain stationed at Fort Omaha.

(Continued on page xvii)

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HUMAN INTEREST TALES

(Continued from page 116)

Dr. R. J. Morgan of Kearney, was called to service the early part of February.

Captain Wilfred L. Shaw of Hastings, has rejoined his 110th Medical Regiment in Camp San Luis Obispo, California.

Among the human interest stories comes a contribution from Dr. Rodney W. Bliss of Omaha, whose genealogical history reveals this significant item.

Copy of First Medical License Granted in the New England Colonies

Courte in Hartford,
30th of June, 1652.

"Thomas Lord, having ingaged to this Courte to continue his aboade in Hartford for the next ensuing years, and to improve his best skill amongst the inhabitants of the Townes uppon the River within this jurisdiction both for setting of bones and otherwise, as at all times, ocassions and necessityes may or shall require; This courte doth graunt that hee shall bee paid by the Countey the sum of fifteen pounds for the said ensuing yeare, and they doe declare that for every visitt or journye that hee shall take or make, being sent for to any house in Hartford, twelve pence is reasonable; to any house in Wyndsor five shillings; to any house in Wethersfield, three shillings; to any house in Farmington, six shillings; to any house in Mattabeseck, eight shillings; (hee having promised that hee will require no more) and that hee shall bee freed for the time aforesaid from watching, warding and training; but not from finding armes, according to lawe."

Dr. Thomas Lord, one of Dr. Bliss' forebears, came to America from England in 1635. It seems that the problem of government interference in medical practice is after all not so new.

BOOKS RECEIVED

Roentgen Treatment of Infections, by James F. Kelly, M. D., F. A. C. R., Professor and Director of the Dept. of Radiology, Creighton University School of Medicine; Attending Radiologist, Creighton Memorial St. Joseph's Hospital, St. Catherine's Hospital and Douglas County Hospital, Omaha, and Mercy Hospital, Council Bluffs, Iowa, with the collaboration of Dr. Arnold Dowell, M. D., Assistant Professor of Radiology, Creighton University School of Medicine; Assistant Attending Radiologist, Creighton Memorial St. Joseph's Hospital, St. Catherine's Hospital and Douglas County Hospital, Omaha, and Mercy Hospital, Council Bluffs, Iowa. 432 pages, including index, with 122 illustrations and 25 tables. The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago, Illinois. Price $6.00.

Neuroanatomy, by Fred A. Mettler, A. M., M. D., Ph. D.; Professor of Anatomy, University of Georgia School of Medicine, Augusta, Georgia. 476 pages, including index, references and author index, with 337 illustrations including 30 in color. The C. V. Mosby Company, St. Louis, 1942. Price $7.50.

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Library, Necrology and Records

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J. C. Waddell, 1942---Beatrice
C. W. M. Poynter, 1944-Omaha

Medico-Legal Advice

R. W. Fouts, 1943, Ch.-Omaha
O. R. Platt, 1942-North Platte
R. B. Adams---------Lincoln

Medical Student Loan Fund

J. Dewey Bisgard, Ch.-Omaha
Lowell Dunn----------Omaha
J. M. Woodward------Lincoln

Journal and Publications

B. F. Bailey, Ch., 1941-Lincoln
W. H. Heine, 1942----Fremont
A. F. Tyler, 1943------Omaha
R. B. Adams, Sec. (ex-of.)- -------------------- Lincoln

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E. S. Wegner, Ch.----Lincoln
E. E. Koebbe--------Columbus
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SCIENTIFIC

Medical and Public Health Education

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G. W. Covey, 1941----Lincoln
H. E. Flansburg, 1942-Lincoln
W. J. Arrasmith, 1943 G. Island
E. L. MacQuiddy, 1944-Omaha
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Food and Drug Administration Report Year's Work

The elimination of filthy food from the market, the prosecution of the responsible manufacturers and shippers, and educational work in improved sanitary factory practices featured the enforcement of the Federal Food, Drug, and Cosmetic Act during the fiscal year 1941, reports W. G. Campbell, Commissioner of Food and Drugs.

His annual report reveals that the year's work was characterized by an increased number of court actions and by improvement in the sanitary conditions in many food processing plants. The fiscal year 1941 was the first complete year during which all provisions of the Act of 1938 were in effect. It was also the first year in which the Food and Drug Administration operated as a unit of the Federal Security Agency.

More than 1,000 shipments of foods were seized during the year because of filth or decomposition. The seizures included shipments of grapefruit juice made from partially rotten fruit, raw coffee filthy from dock sweepings, coffee substitutes infested with insects, flour and corn meal containing weevils, bakery products and confectionery made under insanitary conditions, butter made from unfit cream, cheese infested with insects, and decomposed eggs and egg products. Seizures were also made of shipments of decomposed fish, shrimp and lobsters; of insect-infested fruit and fruit products; of nuts contaminated with filth; of diseased or decomposed poultry; and of tomato products because made of partially decomposed materials. Numerous consignments of condimental seeds and of cocoa beans from foreign countries were denied entry into the United States because of water damage or filth.

Increased regulatory attention was given, according to the report, to dangerous drug products to prevent their indiscriminate distribution to lay users. Action was taken on misbranded cold and headache preparations containing acetanilid or acetophenetidin, whose directions for use and recommended dosages would result in the ingestion of dangerous quantities of these ingredients. Seizures were made of dangerous preparations for chronic alcoholism containing emetine, of inhalants containing an excessive quantity of epinephrine, of reducing preparations containing drugs such as thyroid extract in harmful amounts, and of a mineral water and a mineral compound dangerous because of their high fluorine content.

The Food and Drug Administration conducted a nation-wide investigation to locate and remove from commercial channels thousands of sulfathiazole tablets contaminated with as much as 60 per cent phenobarbital, a highly potent sedative, states the report.

An increased number of court actions involving the shipment of misbranded proprietary medicines were brought during the year. False and misleading therapeutic claims for a great variety of diseases and inadequate warning statements were responsible for most of the actions.

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Reflex Variations of the Coronary Flow

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In our effort to determine the reasons for the changes in normal body health which we see each day in our practice, our attention has been very largely fixed upon anatomical changes in the body tissues which we can see with our eyes, clinically, or in the laboratory, and upon chemical changes in the body processes which can likewise be demonstrated by laboratory methods. The effect of infection has been stressed and justly so, for it is by far the greatest single factor. We have been inclined, however, to regard as somehow unscientific that which we could not visualize in one way or another, and to forget how very unknown is "man, the unknown." We have been prone to overlook the possible effects of our daily environment and of the effect of little things in the routine and habits and events of our daily life in producing not only symptoms which indicate abnormal physiological functions, but which eventually, in some cases, result in actual tissue changes.

We know that the autonomic nervous system controls directly or indirectly every function of the body. It controls not only the activities of all the viscera, but by its control of the blood supply to every tissue, it exerts a dominant influence everywhere. We have reason, also, to think that the autonomic system may be influenced by the higher nervous centers. For instance, there are some people who can will their pulse rate to become faster or slower.

If the function of this silent governing mechanism is normal, as it should be and is in the healthy animal, body processes proceed normally, and reaction to outside stimuli are normal and protective. If, through some influence, there is a deviation of normal function, symptoms of one kind or another may not only be produced, but the reaction to outside stimuli may be abnormal and may not be of biological advantage to the organism. In certain people, or in any of us under certain conditions, very minor influences may at times produce an over-action or an under-action of autonomic response. In our animal ancestors, such response may possibly have been a purposeful reflex. In us, they may cause symptoms which are not only annoying, but may be incapacitating, or may eventually lead to permanent tissue changes.

Abnormal response to certain stimuli or an abnormal degree of response of one kind or another, occurs frequently. In our daily practice we see such abnormal responses: Vaso-motor changes in the face or the extremities under conditions of emotion and other stimuli; changes in gastric secretion which medical students may experience during an examination; the changes in tonus or motility of the gastro-intestinal tract, and many other phenomena.

In the so-called "effort syndrome" or "neuro-circulatory asthenia," we may see tachycardia and a greatly increased respiratory rate on slight effort, cold extremities, cyanosis, perspiration, tremor, the appearance of cardiac systolic murmurs, fainting attacks, and other phenomena, all occurring in bodies where organs and tissues are normal, but with an autonomic system that responds to smaller stimuli than normal, and over-responds to those stimuli. It may be only an annoying symptom complex, or it may be incapacitating. In the last war, it was the basis for a great deal of disability.

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*Read before Omaha-Douglas County Medical Society, Omaha, November 12, 1940.

We have very good reason to think that many, at least, if not most of our cases of duodenal ulcer are the result of abnormal autonomic stimulation of the duodenal bulb, resulting first in hypertonus, and then followed by duodenal ulcer. Changes in gastric acidity when present, are due to the same factors. Cushing's(1) theory of a para-sympathetic stimulus resulting in ulcer has had a great deal of clinical, as well as laboratory substantiation.

In the recurrence of duodenal ulcer, Brown(2), and quite independently, Emery and Moore(3), showed that the most frequent factors in the recurrence of ulcer were of nervous origin. In spastic colon and in megocolon, we again have a condition due to an autonomic imbalance. Lium(4) showed that spastic contraction of the musculature of the colon, whether produced by mechanical stimulation or parasympathetic stimulation or dysentery toxin, could result in damage to the epithelial structure with hemorrhage and ulceration. This can occur in response to any stimulus resulting in over-contraction of the colon wall. Diverticula of the colon are also, in part, the result of spastic over-contraction of the colon wall.

The conditions which have just been very incompletely reviewed, are only a part of the many abnormal conditions which are due wholly or in part, not to disease or some traumatic factor, but to aberrant physiological response of normal tissue to stimuli common in our daily life. The importance of what Schweitzer(5) has referred to as the "irradiation of autonomic reflexes," applies to the function, and in some cases, ultimately, to the structure of every organ of the body. Frequently, changes in function, and later, structural changes, are due to vaso-motor effects, limiting the blood supply to the organ.

In the heart disease of middle or later life, changes in the blood supply to the heart muscle result in angina pectoris and coronary thrombosis, and paroxysmal dyspnea and edema of the lungs.

Most of the heart disease which we encounter in middle and later life is due to a deficient blood supply to the heart muscle. In coronary thrombosis, we have a vessel supplying the heart muscle which is actually occluded. In angina pectoris, and in paroxysmal dyspnea and in edema of the lungs, we have a blood supply which is insufficient for the needs of the heart muscle at the moment. It is possible that some cases of infarction of the heart muscle are due, not to a thrombosis, but to a vessel which is temporarily narrowed. It is probable that the degenerative changes in the heart muscle which occur in later life are due wholly or in large part to a deficient blood supply.

Very early in the history of angina pectoris, Jenner and Parry(6) described sclerotic changes in the vessels of those dying during anginal attacks, which they stated were the basis of the attacks. It is only rather recently that the significance of this decrease in coronary flow has been generally accepted. And now that it is accepted, attention is so firmly fixed upon the anatomical changes in the arteries that the possible significance of transient vasomotor changes are often minimized or disregarded, or even denied.

It is agreed that such anatomical changes in the coronary arteries are solely responsible in many cases. In others, they play the greater part. It is probable that in some others they play a very small part, and in others no part at all. The anatomical changes we can not alter; the physiological influences may be decreased or minimized a great deal in many cases.

It is inevitable that degenerative changes in the coronary arteries should be found at autopsy in about all of the fatal cases, for such changes occur very early in all of us, and by 45, they are pretty definite. But some cases die of anginal attacks or of coronary thrombosis who show only the changes to be expected at this age, or less. And others, with arteries very sclerotic indeed, live to an active, ripe old age, with never a twinge of anginal pain. There are a great many clinical phenomena, also, which we can not explain upon the basis of permanent anatomical changes alone. As an example, it is rather hard to explain on such a basis why a patient who can perform only very limited exertion under one condition of life, can, under other conditions, undertake far more exertion without any difficulty. If sclerotic changes in the arteries are responsible for the pain, we cannot assume that such changes shift back and forth, for example, between the office where the patient is under stress and strain, and his summer home where he is free from business worries. If we are to explain many of the phenomena associated with angina pectoris particularly, we must recognize the possibility that vasomotor changes in the calibre of the vessels may cause the same disproportion between circulatory needs and circulatory supply as do sclerotic vessels.

A great many writers at all times have commented upon the large nervous element in angina pectoris. It has even been included in treatises on nervous diseases, and the term "false angina" is still heard at times. Heberden(7) spoke of the effect of "passionate affections of the mind," and considered that it might be related to other ills "justly attributed to the disturbed function of the nerves." A large proportion of the cases which we see in our practice occur in those who are nervously unstable, the symptoms appearing with over-work and fatigue. It is in just such nervously unstable individuals that vasomotor phenomena are more apt to occur.

The more frequent occurrence of angina pectoris in certain patients after meals and the relief afforded such patients by belching gas or passing flatus is a matter of daily observation with each of us. Death in anginous patients occurs frequently after meals.

It is true that the work demanded of the heart after meals is increased. Some of the more frequent occurrences of anginal pain after meals is because the process of digestion demands more work of the heart. In a person with advanced sclerotic changes in the arteries, it is possible that the moderate increase in cardiac output after meals might be more than the heart could undertake without symptoms of ischemia. But the increase in cardiac output is not sufficient to explain why the pain occurs under certain conditions after meals, and is absent under certain other conditions. Or why in some cases the belching of gas should relieve the pain completely. Or, why anginal pain occurs more frequently in cases of hiatus hernia, and is relieved when the stomach slips back into position. The possibility that there might be some reflex narrowing of the coronary vessels must be considered. In 1931, Dietrich and Schweigl, working with von Bergmann(8) showed that distention of the stomach, particularly at the hiatus, caused a marked decrease in coronary flow, and that this did not result if atropine were administered, or the vagi sectioned. Fenn, LeRoy and I repeated this work upon dogs(9). A Rein stromuhr was placed upon the circumflex branch of the left coronary and the chest was closed. Under light anesthesia, a bag was introduced into the stomach and inflated to the point of moderate distention of the stomach. A decrease of coronary flow was noted. This was especially well marked if the bag was in the cardiac end of the stomach at the aesophageal hiatus. No effect was obtained if the vagi were cut, or if atropine was previously administered. If the free abdominal cavity was distended with air, a decrease in coronary flow volume was also observed. And in like manner, this did not occur if atropine were administered or the vagi cut. There was no fall in blood pressure which could account for the change in flow.

In order to observe the effect upon the unanesthetized and normally conscious dog, a Rein stromuhr was placed upon the same branch of the coronary artery under aseptic precautions, the chest was closed, and the dog was allowed to recover. Such dogs made a complete recovery and went about very happily with the wires presenting through the chest wall. In these conscious and normal dogs, the same decrease in coronary flow was observed upon distention of the stomach, which did not occur if atropine were administered. Normally, there was some increase in coronary flow after meals and during the digestive period.

The conditions of these experiments represented the conditions occurring clinically in man. To confirm these results, a series of experiments were performed on patients who gave a history of angina of effort. Levy(10) had previously shown that in such patients true attacks of anginal pain occurred if such patients breathed for a period a mixture in which the percentage of oxygen was reduced to a point which did not afford sufficient oxygen supply to the heart muscle. For this purpose, a mixture of 90% nitrogen and 10% oxygen was used. After a certain period of breathing the mixture, anginal pain would be induced because of the oxygen-want. The pain could be instantly relieved by a switch to straight oxygen. Dr. Levy used this procedure in several experiments upon angina, and was able to show, for example, that the occurrence of the pain was notably delayed by coronary vasodilator drugs, such as nitroglycerin and the purine base diuretics, and that the pain occurred earlier with digitalis.

We used the same procedure in order to determine whether anginal pain would occur sooner after a meal in such patients. Under standard conditions, the patients breathed a mixture of 10% oxygen and 90% nitrogen. After a period of so many minutes, varying with the different patients, but constant for each individual, anginal pain occurred, relieved instantly when we changed from the low oxygen mixture to pure oxygen. The average time at which the pain occurred on an empty stomach was used as the control. After the control time had been established, the experiment was repeated a few minutes after a full meal. Under these conditions, the pain occurred considerably earlier than during the control experiment on an empty stomach. If atropine was administered, this did not happen. In certain patients, the pain occurred at the same time as in the control experiments, indicating that the earlier occurrence of the pain on a full stomach was due to vagus stimulation superimposed on sclerotic vessels, and did not occur when the vagus influence was eliminated by the atropine. But in some of the other patients, it took an even longer time for the pain to occur, than when the control experiments were done on an empty stomach.

We then went back to the anginal control experiment, breathing the oxygen-poor mixture on an empty stomach, only this time, atropine was administered before the experiment. Part of the patients experienced the attack at the same time as previously. And part of the patients were able to breathe the oxygen-poor mixture for a much longer time than they were without the atropine. Clinically, the differentiation was just what we would expect. In the group where there was the most reason to assume that anatomical changes in the coronary arteries were most largely responsible for the symptoms, the atropine did not influence the appearance time of anginal pain. In the group where there was little reason to assume that the insufficiency of the coronary flow was due to sclerotic changes and some reason to assume the presence of increased vagal tone, the coronary flow was improved by the effect of atropine in decreasing this tone, and the appearance of pain was deferred.

Here, then, would appear to be clear evidence that anginal pain can result from vagal stimuli of gastric origin, and that these reflexes are mediated through the vagus.

There is also presented evidence that in patients subject to anginal attacks, the attacks occur more promptly on a full stomach, and that the earlier appearance of the pain is due to vagus influence, and is abolished by atropine. It is also seen that in some patients the occurrence of pain was due almost entirely to sclerotic changes in the vessels, and that in others a large element of vagal tone must have been responsible for a narrowing of the vessels. It is obvious that the anginal pain in cases of hiatus hernia and the anginal pain occurring after meals or when the stomach is distended with gas is not an "angina-like syndrome," but is a real angina due to coronary vaso constriction.

If a vasodilator drug, such as amiophyllin, was administered before the meal, the onset of the pain was also deferred.

von Bergmann(8) showed that coronary vaso-constriction could also result from aesophageal stimulation. We did not repeat this experiment because of the difficulty in ruling out other factors. But we have all seen patients who experience anginal pain precipitated by the act of swallowing. Weis and Ferris(11) studied a case in which Stokes-Adams attacks were brought on by swallowing food. The fainting attacks were so constant and so severe that the patient had previously sought release by attempted suicide. The fainting attacks were shown to be a vago-vagal reflex and was clinically relieved by atropine. Diverticulae of the aesophagus, and of the cardiac end of the stomach, may also institute reflexes which cause cardiac symptoms on a reflex basis. von Bergmann suggested that in some cases of hiatus hernia, the apparently shortened aesophagus might result from a shortening of the longitudinal fibers, due to the effect of autonomic stimuli repeated over a long period of time. Such a reflex might result from intra-abdominal conditions, such as gallbladder disease, duodenal ulcer, or other conditions.

Generalized abdominal distention produced a decrease in coronary flow in the dog. We did not perform any experiments with localized portions of the viscera. Smith and Miller(12) have shown that such vagal reflexes can originate in the colon, appendix, and gall bladder. Morrison and Swalm(13) have recently reviewed the role of the gastro-intestinal tract in producing cardiac symptoms and have published further evidence.

When we turn to the gall bladder, we have a great deal of clinical evidence to indicate that anginal pain may be associated with gall bladder disease, and especially cholelithiasis. Babcock(14) very early recognized the effect of biliary disease upon the heart. Katz(15) reported cases of pain identical with anginal pain, associated with gall stone colic. Schwartz and Herman(16) reported that in most cases of gall bladder disturbance associated with cardiac manifestations, the heart symptoms were better after operation. Goldstein(17) also stressed the association of angina pectoris and coronary thrombosis with gall bladder disease, and in angina pectoris, the disappearance of the symptoms after operation. Fitz-Hugh and Wolferth(18) also noted cardiac improvement following gall bladder surgery. Electrocardiographic changes were shown to revert to normal, following operation.

The association of gall bladder disease and abnormal rhythm, especially extra systoles, has also been stressed by many others. Our own experimental work on the dog would indicate that such reflex is present, but we do not think the evidence so far is conclusive.

Intrathoracic pathology can also institute reflexes which decrease the coronary flow, as was early suggested by Danielopolu(19) and Scherf and Schonbrunner(20) in 1935 observed that lung emboli were associated with typical angina pectoris, and there have been other similar observations since that time. DeTakats, Beck, and Fenn(21) have presented further evidence of coronary vasoconstriction, and consider that this is in the nature of a vagal reflex. DeTakats and Jesser(22) consider that death is not always due to asphyxia, or failure of the right heart, or insufficient venous return to the heart, but may, in some cases be a coronary death, due to a reflex vasoconstriction. DeTakats has also shown that with pulmonary emboli, there is a constriction of the pulmonary vessels and of the bronchi as well. Cases treated with atropine combined with papaverin, or with atropine and aminophyllin and cases of lung emboli show a greatly decreased death rate, a decrease from 82% to 13%. That it is a vagal affair would also be indicated by the cases of heart block associated with lung emboli, reported by Kaufman(23).

When we turn again to the heart, Manning, McEachern, and Hall(24) have shown that when the branch of the coronary artery of the dog is ligated under full anesthesia, there is a very low mortality, but if the ligature is first placed about the artery, without tying it until the animal has fully recovered from the anesthetic, there is a very high mortality. If the vagi are cut, or atropine administered, the mortality is not nearly as high. In this case, the ligation of the artery produces a reflex vasoconstriction of the intact arteries which does not occur when the vagi are cut. We see similar reflexes elsewhere in the body when an artery is occluded.

When the blood pressure passes a certain high point in the experimental animal, Anrep(25) showed that the increased intracephalic pressure causes a reflex vasoconstriction of the coronaries, and Stella showed that this was mediated through the carotid sinus. Lewis(26) reported some clinical cases where anginal pain occurred with high blood pressure which was relieved by vasodilator drugs, even if there was no fall in blood pressure.

What we have just said presents both clinical and experimental evidence that stimulation of the vagus nerve produces a vaso-constriction of the coronary arteries. The work of Greene(27) would indicate that the vagus is the sole pathway for efferent coronary constrictor nerves. He resected the vagi between the exit of the vagus roots from the jugular foramen and the ganglion nodosum, and allowed the animal to recover. After sufficient time was allowed for degeneration, no vaso-constrictor effects could be obtained from the cervical vago-sympathetic pathway.

The effect of cold, or facing a cold wind, is also of interest. One would like to think that this, too, is a vagal-coronary-constrictor reflex. But Rein has shown that the coronaries dilate when cold air is blown upon the experimental dog. It is possible that a rise in blood pressure consequent upon the exposure to cold may increase the work demanded of the heart to a point where the blood supply to the muscle is inadequate for the increased work. It is probable that there is some additional unknown factor.

We do not know why anger and other emotions bring on attacks of angina. It is possible that here also we have a reflex coronary vaso-constriction. It might be, of course, that it is solely due to increased cardiac work in consequence of vaso-motor changes and increased blood pressure. But it would seem to occur often in the nervous, high-strung individual with only moderate anatomical changes in the coronary vessels.

The possibility of repeated reflex vasomotor constriction of the coronary arteries causing permanent degenerative changes in the heart muscle must be considered, and there is some clinical and experimental evidence that this is so. Blumgart and his associates(28) have shown that arrest of the blood flow in a single coronary artery for just one minute can lead to electrocardiographic changes and that arrest of the flow for longer periods of from 25 to 45 minutes might result in areas of necrosis. Hall, Ettinger and Banting(29) were able to produce permanent myocardial changes comparable to those seen clinically by repeated vagus stimulation, obtained by the use of drugs or by electrical stimulation.

What we have said has applied almost entirely to angina pectoris. It applies equally well to the cases of left heart failure which Smith(30) has shown to be due to a blood supply to the left ventricular muscle, which is inadequate for its needs at the time. Coronary thrombosis also occurs in just the same group of cases in which angina pectoris occurs, with the same age incidence and the same predominance of those working under stress or strain. It is a question as to whether here also there is not a large element of autonomic influence.

I have attempted to show that certain viscero-visceral reflexes can produce a decrease in coronary flow which is productive of symptoms of coronary insufficiency. I have suggested possible effect of such phenomena, repeated over long periods of time in causing permanent degenerative changes in the heart muscle. The question arises as to why such reflexes occur. They are not conservative in character, or for the welfare of the organism. But this applies to similar reflexes involving the bronchi, the gastrointestinal tract, the blood supply to the extremities, and other regions. For our patients' sake, we would like to know upon what these reflexes are predicated. We really know very little about them. We do know that they should not occur in the normal, healthy organism.

In the effort syndrome, anginal pain occurs in young individuals with normal blood vessels. MacFie Campbell(31) suggested that the syndrome was more frequent in those who could be classed as "constitutionally inferior." In such individuals very slight physical or emotional trauma could induce the same overaction or lack of balance of the autonomic system which would require greater and more prolonged stimuli in those more robust physically and nervously.

We know that these phenomena are more frequent in the nervous, high-strung type of individual whom Eppinger and Hess(32) would classify as belonging to the "vagotonic" type. Houston speaks of such people as having the "spasmogenic aptitude." They are often what we could call "neurotic."

There seems also to be an age factor. Both angina pectoris and coronary thrombosis become more frequent until almost 60, and then become less frequent. And if we measure the response of the vagus to digital pressure upon the carotid sinus, we see that the response increases up to the late fifties or sixty, and then decreases, following a course very similar to that followed by the incidence of angina, Gilbert(33).

It appears that fatigue also renders the autonomic system more labile, so that it responds to smaller stimuli and over-responds. The same applies to infection, even very minor infection, and especially when followed by an insufficient interval for convalescence. A great deal of harm is done by returning a patient to his previous activities before sufficient time has elapsed to allow a complete return to a physiological normal.

We know, too, that there is some interrelationship between the organic and inorganic constituents of the blood and the autonomic system. We know that stimulation of the sympathetic or the para-sympathetic can alter the value of different blood constituents. And conversely, there is some reason to think that changes in blood chemistry may alter autonomic responses.

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IN THIS ISSUE

THE physiology of circulation is always intriguing to the student and clinician. In this issue of the Journal, Dr. N. C. Gilbert, head of the Department of Medicine, Northwestern Medical College, discusses the "Reflex Variations of the Coronary Flow" on page 117

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DR. H. E. Eggers who has, for years, experimented on chemotherapy for cancer, presents his article on page 133

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Medical Care of the Premature Infants*

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During the past few years much interest has been shown in the infant mortality rates of the various states of the country. The rates have been falling but the number of infants dying from prematurity has changed very little; in fact, some sections of the nation have had an actual increase in premature baby deaths. In Nebraska(1) as indicated by Chart No. 1 and Table No. 1, infant death rates under 1 year of age decreased by 30% from 1929 to 1940 and neonatal deaths (infants under 1 month of age) decreased by 22% from 1929 to 1940, while premature infant death rates decreased but 12.6%. It is therefore of utmost significance to make every effort to reduce premature infant mortality rates. A better understanding of newer methods involving management and feeding of these small infants is most essential.

TABLE I
PREMATURE INFANT MORTALITY
Nebraska

					Per 1,000 Live Births			
			Deaths				DEATH RATE	
Year	Total Births	Premature Infants	Under 1 Month	Under 1 Year	Birth Rate	Premature Infant	Under 1 Month	Under 1 Yr.
1929	26,591	401	820	1,374	18.7	15.1	30.9	51.6
1930	27,006	435	862	1,331	18.7	16.1	35.2	50.9
1931	26,610	410	823	1,298	19.2	15.3	30.9	48.8
1932	25,160	379	759	1,089	18.1	15.1	30.2	43.2
1933	24,187	408	796	1,190	17.4	16.8	32.9	49.2
5-yr. Avg.	23,911	407	812	1,256	18.4	15.7	32.0	48.7
1934	25,087	387	750	1,139	18.0	15.4	29.1	45.4
1935	23,326	332	617	958	17.1	14.2	22.1	41.1
1936	23,799	342	666	1,053	17.4	14.4	28.0	44.2
1937	22,256	328	586	937	16.3	14.7	26.3	42.1
1938	22,402	290	543	808	16.4	12.9	24.2	36.0
5-yr. Avg.	23,374	336	632	979	17.0	14.2	25.9	41.8
10-yr. Avg.	23,642	371	722	1,118	17.7	15.0	30.5	45.3
1939	22,326	308	563	816	16.4	13.7	25.2	36.5
1940	22,153	303	529	789	16.8	13.2	23.9	35.7
Reduction in rate 1929-1940						12.6%	22.0%	30.0%

Prematurity refers to infants born before the 36th week of gestation and weighing less than 5½ pounds (2500 grams), usually differing anatomically and physiologically from normal full-term infants. Infants having a low birth weight are not necessarily premature as the smaller size may be an inherited characteristic; nor are all infants who were delivered prematurely necessarily below the average weight of full-term infants. In general, however, prematurely born infants and immature full-term infants who are small at birth require special care. In the following paragraphs the term premature is used to include immature full-term infants, as well as infants born prematurely coming under the weight classification cited above.

These infants because of underdevelopment are at a great disadvantage when compared to normal infants. Due to shorter intra-uterine life, they show underdevelopment of their heat regulating mechanism. The body temperature tends to fall below normal on slight exposure to cold and to rise above normal due to high surrounding temperatures where the surrounding temperature is not subject to careful regulation; daily variation of body temperatures of as much as 5° F. has been observed.

The respiration center is also underdeveloped, which accounts for the large incidence of respiratory failure and for the frequency of irregular respirations associated with long periods of apnea (transient cessation of respiration). These periods may be so long at times as to lead to death from suffocation. Sometimes, however, the apnea of prematures may be due to intracranial hemorrhage involving the respiratory center, rather than to underdevelopment.

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*Presented before the physicians and nurses attending the Nebraska Conference on Premature Infant Care, June 12th through 28th, 1941. From the Minneapolis General Hospital—Division of the Department of Pediatrics, University of Minnesota and the Division of Maternal and Child Health, Nebraska State Department of Health.

The digestive capacity of premature infants is low; intestinal motility is impaired and absorption of food is poor. Normal digestive enzymes may be present in reduced amount. The gastric capacity is likely to be disproportionately small and per unit of weight the food and food accessory requirements are greater than those of the normal full-term infant.

Prematurity is an emergency condition and is frequently precipitate. Preparedness at the time of birth frequently means the difference between life and death of the infant. Two things are of predominant importance: (1) Prevention of chilling or exposure over too long periods of time, (2) asepsis(2). When the possibility of prematurity is suspected one must be prepared. In the nursery the heating unit of the incubator (or whatever equipment is employed) is turned on as soon as word is received from the physician. A design for a premature infant incubator is shown in the accompanying illustrations (Figures 1, 2).

Plans for constructing this simple white enameled wooden box with removable bottom can be obtained by writing the Division of Maternal and Child Health, Nebraska State Department of Health(3) Any competent cabinet maker can construct one. Information as to where the necessary scientific instruments needed can be obtained will be supplied with the plans. An open spark gap thermostat previously contained inside the box has now been replaced by a thermostatic element inside the box but with the spark gap and dial adjustment outside. This obviates the dangers of open spark gaps inside the box when continuous oxygen in high percentages are obtained for resuscitation of the infant.

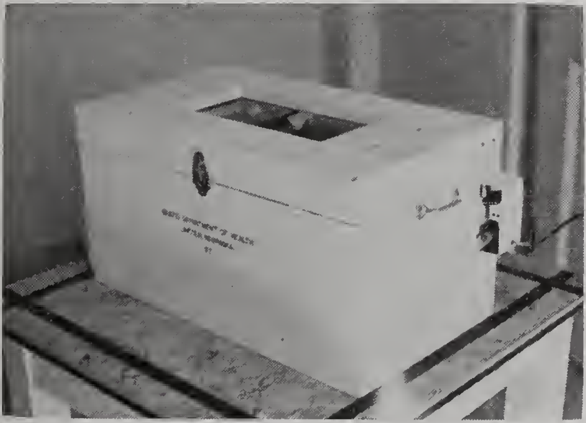

Fig. 1. Nebraska Infant Incubator (Closed)

Humidity may be provided by placing gauze over the copper bar which hangs into the slender design copper water container. Thus by the moistened gauze projecting into the water, better dispersion of the moisture to maintain proper humidity occurs (Figure 2). A removable bottom, sliding glass panels in the lid and a ventilating slide at one end, as indicated by the ray of light protruding through the open vent, makes this unit mobile, handy and of considerable utility. Instructions for operation are pasted on the inside of the lid for convenience. One incubator placed in each county, which is available at the request of any physician in the county for emergency use, indicates a practical point at which to begin in the better care of the premature as well as a symbol to keep before us urging a continued effort to lower the incidence of deaths in this group of infants.

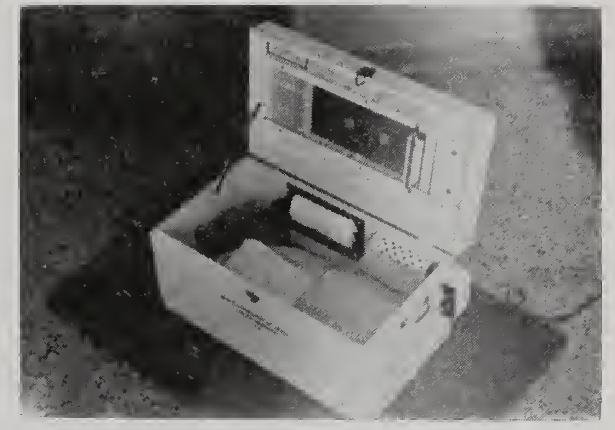

Fig. 2. Nebraska Infant Incubator (Open)

It is advised that whenever possible incubators be constantly in operation for emergency needs as in hospitals, or when the hospital is notified by the physician that he is sending a probable premature delivery case, connecting the instrument at once will insure a properly warmed receiving unit for the premature infant. It has also been suggested that all articles to be used in the early care of the infant including the receiving jacket be in the warmed unit. This would insure retention of the normal birth body heat of the infant. It is hardly necessary to add that the unit be kept scrupulously clean and the articles placed in it be clean, preferably sterilized. The heating unit should be allowed to reach 100° F. It is best that no sudden drop in the infant's temperature be allowed.

In the obstetrical delivery room the baby should be immediately placed in the warm receiving blanket or jacket or sterile absorbent cotton covered with two layers of gauze which are loosely quilted. If the infant's condition permits and no maternal emergency exists, pulsation of the cord for 2 or 3 minutes can be allowed during which time it will receive an additional 1 to 2 ounces of blood. The cord is clamped and cut; the baby placed in the heated unit. Ligation of the cord can be delayed for many hours if necessary. Moreover, the long cord as clamped allows use of intravenous alphalobelin, lobelin or coramin as aids in resuscitation when necessary. A soft absorbent diaper is placed at the buttocks to catch meconium and urine. This is changed as required.

Great care should be taken at delivery to remove mucus from the air passages by carefully wiping the nose and mouth with a piece of soft gauze. Premature infants should not be bathed during the first day or two, and in many clinics, no bath is given the first 10 days especially in very weak infants. They merely have the vernix carefully removed from the folds of the neck, armpits, groins and buttocks to avoid excess papules and maceration of the skin. Warm liquid petrolatum or baby oil, or one part baby oil and four parts boric acid ointment used on small cotton applicators serve well to remove the excess vernix(4). After this, no bath is given up to 10 days but the genital and anal regions should be carefully cleansed when needed with sterile water, avoiding trauma. During the first 16 hours the infant must be frequently observed by the nurse. Orders should be given to notifiy the physician immediately if cyanosis, irregular respiration, convulsions, pallor or hemorrhage develop. Resuscitation may be efficiently performed within the incubator; methods will be described presently.

Unless otherwise ordered by the physician, the temperature is taken just before feeding time and not more than every 4 hours. The body temperature of the premature should be maintained between 97° and 99° F and always recorded. Body temperatures lower than 97° F over long periods of time are probably more hazardous than those slightly above 100° F. Death will occur if the infant's temperature drops to 93° F.

Room temperature should be between 72° and 80° F and the incubator temperature should be 80° to 86° or more, depending in each case on the amount of heat necessary to maintain the premature infant's body temperature as previously stated. The higher temperature of the bassinette is necessary for the smaller infants. Regulation of the incubator temperature is effected by thermostatic control, by turning on and off the heating units or lights, by lowering the cover or by hot water bottles or hot stones and bricks, depending upon the type of incubator employed and heating facilities available.

The humidity of the room or incubator is likewise of paramount importance. Relative humidity should be kept between 40% to 55% saturation—particularly in the case of very small prematures. Concern over proper humidity should, however, be left until proper cardiac and respiratory function have been assured, which may be a few hours to even 2 days. Room or incubator temperature or humidity should be recorded at the physician's request. Humidity measurement is easily obtained by an inexpensive humidiguide, several types of which are available at local dealers.

No premature infant should be removed from premature care until it can maintain a normal temperature at all times with the heating unit entirely turned off. This must be considered before a premature infant is discharged. In view of the many external surroundings which require regulation, a special room should be reserved for the use of the premature baby. In the hospital this is frequently possible and in the home every effort should be made to provide isolation and the desired physical surroundings.

Following reception of the baby into the properly heated unit two primary factors now become of concern in its survival. At this point either cardiac deficiency or respiratory failure may spell finis. For the cardiac emergency, one drug, adrenalin (1:1000) in minim 1 or minim 2 doses effective given as often as every 15 minutes or every hour or less often as indicated until they show definite signs of activity. To assure continuance of good heart activity it may require administration of the adrenalin more or less constantly for 3 or 4 days and even then the dose may be increased to a maximum 3 minims every 4 hours routinely until they are quite active; then every 8 hours, every 12 hours and finally every 24 hours until discontinued by the physician. The adrenal glands are probably not very active in these very small premature infants.

Respiratory failure(5), an important cause of early deaths, demands serious consideration. Cyanotic attacks appear suddenly and without warning, especially in infants weighing less than 1500 grams (3.3 pounds).

It is altogether fitting, therefore, to offer in more or less outline form some of the salient features of present day resuscitation in order to stimulate a more determined and concentrated effort to improve the effort toward normal breathing in the newborn. Although there is still plenty of room for investigative studies, present methods when properly performed can save many infants, especially premature babies. There always will be a certain number of infants who will die from intracranial hemorrhages, anomalies incompatible with life, or marked developmental deficiencies.

THEORIES OF RESPIRATION

Marchetti(8) refers to three hypothetical factors that may initiate the expansion of the lungs and thereby establish respiration in the newborn: The physicial, chemical and biological. Under the first, the theory has been presented that the infant begins to breathe at birth as a consequence of reflex stimulation set up by the trauma resulting from labor. Marchetti points out, however, that when one considers how adverse and difficult labor may be and the injury that the newborn may sustain as a result, such a theory is obviously untenable. Other investigators propose that inasmuch as carbon dioxide stimulates the respiratory center, it is the increase in carbon dioxide tension in the blood of the newborn at the time of birth that initiates respiration. Eastman(8) has shown from his studies on the fetal blood that the baby will begin to breathe whether the carbon dioxide tension is high or low. From the evidence available at the present time, it appears that chemical factors do not entirely explain the onset of respiration.

The existence of rhythmic intrauterine respiratory movements that simulate those of extrauterine life has been demonstrated. This phenomenon may be considered the biological factor, for it is difficult to understand how such a vital function as respiration should suddenly become initiated as soon as the infant is born. Marchetti believes that all evidence at hand indicates that the mechanism of respiration is established in intrauterine life and assumes its vital function at birth. This function is awakened by a combination of the chemical factors considered in the previous paragraph. The biological theory leads one to consider the following statement of Eastman: "Instead of being an attempt to start something new, the treatment of apnea at birth now becomes an effort to preserve and safeguard a sensitive mechanism already in active existence."

ANALGESIA, ANESTHESIA AND THE NEWBORN INFANT

Pressure from the laity has forced physicians to increase the use of analgesia and anesthesia. Few labors are carried through with no drugs whatever. Wilson(10) and his associates admit that although the incorrect or excessive use of drugs may cause anxiety, as a rule such infants respond after a more or less prolonged period of apnea with cyanosis. Occasionally, however, a depression is encountered which is so deep that after a few shallow respirations the apnea recurs, and such babies can be kept alive only with the greatest difficulty. The important point is, that although few lives are lost as a result of the use of drugs per se, such infants cannot stand much additional asphyxia. This applies especially to premature babies. If in such cases a long, deep anesthesia is employed, many of the infants will die. They might recover from the narcosis or the asphyxia alone, but are overwhelmed when one is superimposed upon the others. If a traumatic delivery with deep anesthesia is anticipated, or other causes of asphyxia are present, or likely to occur, it would be safer to dispense with drugs. Table II summarizes the conclusions of various investigators concerning the influence of obstetrical analgesia and anesthesia of the newborn child(11) (12).

The evidence presented in favor of little or no drug therapy is further supported by the recent observations of Schreiber(13). He concludes from his studies that the depressing effect on the respiratory center of birth analgesics given in greater than pharmacologic doses bears a direct relationship to the degree of apnea. The extent of the apnea has a direct relationship to the severity of the cerebral symptoms after birth. The severity of the cerebral symptoms is in direct relation to the amount of damage to the brain tissue. From these relationships, it appears that analgesics given in greater amounts than the pharmacologic dosage in many instances may be the causative factor of fetal anoxemia, with resultant cerebral damage in the newborn infant.

CLEAR AND OPEN AIR PASSAGES FROM LIPS TO LUNGS

Repeated attention to the air passages immediately after birth will reduce the incidence of cyanosis due to mucus and amniotic sac contents in the upper air passages, and cessation of cyanosis following such measures confirms the diagnosis of obstruction of the upper respiratory passages. Attempts to make the infant breathe should be refrained from until the passages are well cleared. This will prevent much aspiration of the substances which have been demonstrated at autopsy in the lungs of many infants.

MOUTH TO MOUTH INSUFFLATION

This method of resuscitation is an old one. It carries serious risk of infection and depends largely for success on the experience and skill of the physician. His mouth serves as a mask and air is forced into the infant. It usually enters the stomach but if sharp, short, repeated puffs are made, a little may enter the trachea, especially if the head is held in hyperextension. Wilson believes that in the hands of the novice the method is always dangerous, and even after long experience, the possibility of ruptured air sacs is great. Over 14 cm. of water pressure will rupture the alveoli. Occasionally a baby is saved by its use.

DIRECT EXPOSURE INTUBATION AND INTRATRACHEAL INSUFFLATION OF GASES

When mild measures have been unsuccessful in the more serious forms of asphyxia neonatorum, the newborn infant may respond to insufflation(14). With the infant type of direct vision laryngoscope, the tongue is easly depressed and the larynx exposed. The pharynx is quickly cleansed of any mucus with the little sucker and the laryngeal tube is introduced within the vocal cords and well into the larynx. Again, the sucker is used to aspirate any contained matter, mucus or other fluid. When it is ascertained that all obstructive material has been removed, the laryngeal tube is connected with the gas tube and insufflation of oxygen with or without carbon dioxide is begun.

The method has not been very popular in the resuscitation of premature infants. Flagg(15), however, makes the following statement to any objections which may

TABLE II

The Influence of Obstetrical Analgesia and Anesthesia on the Newborn Child—Observations of Various Investigators

Author and Year	**Opium Derivatives**	**Various Barbiturates**	**Scopolamine, Rectal Ether; Paraldehyde**	**Inhalation of Ether**	**Nitrous Oxide and Oxygen**
Eastman 1936				Produces slight depression of O_2 saturation of fetal blood with no injury to fetus through anoxemia.	In ratio of 85:15 or weaker for less than 5 minutes causes moderate degree of fetal anoxemia with infant usually not harmed.
Clifford 1937	Unfavorable influence on newborn is in direct proportion to amount given and time interval before delivery.	No relation exists between size of dose or time and condition of infant at birth.	No effect is shown on infant attributal to the ordinary doses used of these drugs.	Less than 1 ounce of ether inhalation has no effect on the infant.	No relationship noted between gas-oxygen administration and infant's condition. No information given as to effect of various concentrations of anesthetic.
Wilson 1937	Exert powerful depressing effect and should not be used less than 2 hours before delivery.	Depression of infant is not easy but if it occurs response to resuscitation is poor.	Paraldehyde is most harmless of available drugs.	Safe unless present in blood in high concentration for long period of time.	Little danger to infant if O_2 is used. If O_2 ratio below this, asphyxiation of mother and baby will occur. and resuscitation may be difficult.
Teel 1938	Given within 4 hrs. before delivery, followed by marked and sometimes alarming asphyxia.			Prolonged maternal anesthesia prior to delivery with much less than 20% oxygen in the inhaled mixture results in varying degree of and sometimes marked asphyxia in the newborn infant.	
Cole 1939 (Personal Communication).	Within 4 hours of delivery morphine causes severe asphyxia (28% of N. Bs.) while before 4 hours, much less asphyxia (17.7% of infants).	Small amounts not effective but large amounts (nembutal, 4 units*) cause severe asphyxia (14.7% of N. Bs.)	Small amounts not effective but fairly large amounts (scopolamine, 4 units**) may cause severe asphyxia. (12.8% of infants).	Ether anesthesia tends to reduce birth shock, although spinal anesthesia is better than ether in caesarean section.	

*—Nembutal, one unit—1½ grains.
**—Scopolamine, one unit—1/150 grain.

arise: "If the infant to be resuscitated is premature, it is practical to use the tube employed for suction as an insufflation instrument. This tube is considerably smaller in diameter than is the ordinary endotracheal insufflation tube. With this technique, the suction tube is introduced into the small glottis, and suction is gently performed. The tube is then withdrawn and is attached to the insufflation tube, the mucus is blown out, and the tube is replaced as an insufflation tube."

* * *

An appalling number of people educated in American public schools believe in and are influenced by many common health fallacies, George A. Walker, Des Moines, Iowa, and Eleanor Saltzman, Benton Harbor, Mich., concluded as the result of a recent survey made of the health knowledge of a representative group of young men enrolled in the Civilian Conservation Corps and reported in the January issue of Hygeia, The Health Magazine. Until such superstitions can be uprooted from the folk culture passed from parent to child, they say, the health of our citizenry must remain in constant danger of being undermined by its own remedies and fears.

"The ten hygiene untruths," the authors explain, that found widest acceptance among the CCC boys follow:

"Eating green apples commonly causes colic.

"Cereals are rich in body building protein, provide a source for quick energy and are in general a good 'all-round' food.

"Canned vegetables and fruits allowed to remain in the original container until the next meal will be poisoned.

"Tooth decay is best prevented by thorough and frequent brushing.

"The 'stuffiness' and 'closeness' of the air in a room is due to an excess of carbonic acid gas or to the organic poisons from the breath.

"Baking soda hastens the digestive process in the stomach.

"Small organisms (bacteria) are spontaneously generated from filth or accumulations of dirt.

"It is more dangerous for an adult to have whooping cough than a child.

"An onion eaten raw is of value in the treatment of a cold.

"Exerting the body rests the mind.

"All these are simple falsehoods to the student of physiology and hygiene, yet statistics from these tests show that from 43.6 to 70.4 per cent of the CCC enrollees believe the previously mentioned statements true . . .

"Education does have some effect . . . Forty-seven per cent of the elementary group believed that milk is a mucus-forming food and hence many times undesirable, especially for persons inclined to be bothered by catarrh, as against 35 per cent from junior high school and only 15 per cent from the college group. Although 74 per cent knew the old rhyme about an apple a day, only 31 per cent were influenced by this simple recipe for keeping the doctor away. Sixty-five per cent of the grade schoolers believed it, and only 17 per cent of the men of college level.

"Milk received credit for other somewhat bizarre properties. Many of the men thought that milk and seafoods, especially lobster, should never be eaten together, that milk curdling in the stomach is an indication of indigestion, that it is an undesirable food for athletes as it 'cuts' the wind, that the drinking of cow's milk fresh from the udder can cure consumption and that syphilis can be cured by fasting, followed by a milk diet."

Regarding the origin of these commonly accepted fallacies, the authors explain that some of them are caused by inadequate, poorly conceived, impractical hygiene courses in the average public school; some are passed on from parent to child, and some are the result of advertising misinformation that bombards the helpless public.

"Folk lore is not the only source of weird convictions," they contend. "Is advertising pressure also responsible for this wholesale list of properties assigned to yeast: a nutrient food product which stengthens the internal muscles and intestines, aids digestion, cures acne and constipation? Forty-four per cent of the men of college level believed it. Perhaps the grade schoolers read less and so missed the full broadside of the advertisements—at least only 12 per cent professed it to be the truth. . . .

"Inadequate health training and only partial comprehension of the hygiene facts taught condemn the public schools these boys attended. Forty-four per cent believed firmly in the standardized age, height and weight tables for determining a child's proper weight. Are frequent toothbrush drills responsible for the 62 per cent who believed tooth decay is best prevented by frequent and thorough brushing?

"It is not enough to buy our boys and girls tooth brushes, to urge them to eat their spinach, to see that they get their vaccination for smallpox at the proper age. What about the 34 per cent who still say a cat will kill a baby by sucking its breath? One fourth of the boys believed that reducing their weight by taking cathartic salts is a harmless, sensible procedure. Until such superstitions can be uprooted from the folk culture passed from parent to child, the health of our citizenry must remain in constant danger of being undermined by its own remedies and fears. . . .

"Our present world, our own country, needs as never before citizens with sane attitudes and strong bodies. Such programs as the Civilian Conservation Corps can only touch many of the problems involved in preparing our people for full defense and for the courage needed to find a way through our chaos. Let us hope that from such need as this study reveals a broad new program may develop by which all our men and women may learn to nurture the healthy body that must be a precursor to a healthy mind, a healthy life and a healthy world."

Carcinoma of the Breast

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Most textbooks describe the signs of carcinoma of the breast as a firm non-encapsulated infiltrating lump with dimpling of the skin over it, fixation of the tumor to the skin and even to the fascia beneath it, often elevation of the breast, retraction of the nipple, orange peel appearance of the skin, enlargement and firmness of the axillary lymph nodes, loss of weight, cachexia, secondary anemia, chronic cough, etc. These are signs of late carcinoma in which the chance of cure is practically nil. This stage may be reached because of the patient's failure to seek medical attention or by failure of a physician or surgeon to realize the seriousness of the lesion at the time he first sees it.

The aim of the medical profession is to institute treatment at the earliest possible stage. At this time there is an excellent chance of cure. Delay may be fatal. Therefore, the early signs of carcinoma should demand our attention.

Any single lump in the breast should be very carefully studied. The fact that the lump is freely movable does not exclude early carcinoma. Because of this we are not justified in watching a lump to see if it enlarges, but should make a diagnosis immediately. The first point to consider is whether the lump is cystic or solid. Palpation does not always determine this. Fluctuation usually means cystic disease, but a soft growth, such as a lipoma or soft fibro-adenoma, may seem to fluctuate. Transillumination helps somewhat and may be of a great deal of assistance if the mass is a fairly large cyst with clear fluid and a thin wall. In this case the light will shine through it. However, it is not uncommon to find quite a thick cyst wall, which is opaque to transillumination, so that this method does not differentiate it from a solid tumor. An x-ray picture has about the same advantages and disadvantages as transillumination. The best way to differentiate a cyst from a solid tumor is to insert a needle into the center of the mass and aspirate to see if any fluid is obtained. If clear fluid is obtained and the mass then disappears, we can feel fairly certain that it is a benign cyst. If the fluid is bloody, it may be a papilloma or a carcinoma, most likely of the papillomatous variety. If on aspiration no fluid is obtained, the lump is probably solid. The two most likely conditions causing a single solid lump of the breast are fibro-adenoma and carcinoma.

The following rule should be closely followed: Any single solid lump of the breast should have immediate biopsy to rule out carcinoma. When the lump is excised for biopsy, a frozen section should be made and studied immediately and, if it be carcinoma, a radical mastectomy performed at that time. This avoids two anesthesias and decreases the chances of dissemination.

The first clinical sign to appear which helps to differentiate carcinoma from fibroadenoma is retraction of the skin over the tumor. This is elicited by making a little pressure on the side of the tumor and looking carefully for any drawing in of the skin. This dimpling of the skin becomes more apparent as carcinoma grows. Fixation of the skin usually means carcinoma. However, in rare instances it may indicate an old abcess, cystic disease with infection, tramatic fat necrosis, or plasma cell mastitis.

A recent unilateral retraction of the nipple usually indicates carcinoma. The same exceptions may occur as were mentioned in the case of fixation of the skin. Congenital retraction of the nipples must always be considered. This is usually bilateral and present since birth.

Enlargement of axillary nodes does not always indicate carcinoma, as any infection in the breast may cause an inflammatory enlargement of these nodes. In carcinoma the nodes are likely to be harder and not tender. When first involved the nodes are discrete, encapsulated, and freely movable. Later they may fuse and become fixed to the surrounding tissue.

A recent serous discharge from the nipple in an elderly person is very likely to indicate carcinoma even though no tumor can be palpated. However, it may be chronic mastitis or cystic disease of the breast. A biopsy should always be made. If no tumor can be palpated it may be difficult to know just what area to excise for biopsy. This may be determined by pressure in different parts of the breast and seeing which area, when compressed, results in the fluid appearing at the nipple.

Bloody discharge from the nipple usually indicates papilloma or papillomatous carcinoma. A biopsy should always be made, as papilloma is a premalignant lesion and a very high proportion of these cases become carcinoma. For this reason the papilloma should be removed to prevent carcinoma developing later.

Tenderness of the breast usually indicates a benign lesion. There is, however, a type of very rapidly growing Grade IV carcinoma of the breast which is sometimes spoken of as inflammatory carcinoma because it has all the signs of inflammation. This inflammatory carcinoma should always be considered when there is no apparent cause for inflammation.

Nodularity of the breast usually indicates a benign lesion. If there are two or three encapsulated nodules, they are likely to be fibro-adenomata or cysts. If there is a diffuse nodularity, it may be so-called "chronic mastitis" or cystic disease of the breast.

PREMALIGNANT LESIONS

So-called "chronic mastitis" or a single blow to the breast rarely if ever lead to carcinoma. Fibro-adenoma rarely undergoes carcinomatous change, but in rare instances may become sarcoma. Papilloma, on the other hand, very commonly becomes carcinoma, and because of this should always be treated.

The relation of cystic disease of the breast to carcinoma is not yet settled. The evidence may be considered under three headings:

1. In breast tissue removed for chronic cystic mastitis, unsuspected carcinomatous changes are found in about 15 per cent. Many stages from cyst to papilloma to carcinoma may be seen in the same microscopic section.

TABLE I

Author	Year	Cases	Carcinoma	Per Cent
Schimmelbusch	1892	43	3	7
Sasse	1897	9	2	22
Ruloff	1900	11	4	36.3
Greenough and Hartwell	1903	30	3	10
J. C. Warren	1905	115	15	13
Theile	1909	19	3	15.8
Speese	1910	35	9	25.7
Semb	1928	100	24	24
Kazhevnikoff	1930	80	6	7.5
		442	69	15.6

2. There is considerable dispute about the frequency of chronic cystic mastitis found in breasts removed for carcinoma. Our own cases show this to be very frequent. It is often stated that carcinoma practically never arises from normal breast tissue.

TABLE II

Author	Year	Carcinoma	Cystic Disease	Per Cent
J. C. Warren	1905	507	15	3
Deaver and McFarland	1917	335	23	6.8
Fischer	1925	151	21	14
Semb	1928	140	112	80
McGlannon	1930	100	8	8
Morpurgo	1930	196	47	24
Lewis and Geschickter	1938	2,675	29	1.1

3. Follow-up records do not seem to indicate that unsuspected cases of cystic disease of the breast often develop carcinoma.

TABLE III

Author	Year	Cases	Carcinoma	Per Cent
Greenough and Simmons	1914	83	4	4.8
Bloodgood	1921	128	3	2.3
Peck and White	1922	63	0	0
Johnson	1925	107	2	1.9
Campbell	1934	233	1	0.4
Klingstein	1935	54	2	3.7
Lewis and Geschickter	1938	250	1	0.4
S. Warren	1940	340	14	4.1
		1,258	27	2.1

It will need a great deal more study before authorities agree on this subject. Any patient with cystic disease of the breast should be observed at frequent intervals because of the possible increased danger of developing carcinoma.

TREATMENT OF CARCINOMA

It is generally agreed that radical mastectomy offers by far the best chance to cure carcinoma of the breast. The earlier the operation, the better the chance. Therefore, all suspected lesions should have a biopsy with frozen section, and, if found to be carcinoma, a radical mastectomy should be performed at the same operation. If this is done when there is just a small lump before it has any of the definite signs of carcinoma, 60 to 75 per cent are permanently cured. Permanent cures are very rare if operation is delayed until there are extensive axillary node metastases. However, a small lump operated within a few days of its discovery is cured in three out of four cases.

X-ray therapy alone practically never cures carcinoma of the breast. It is used frequently in the postoperative treatment of carcinoma of the breast; it is advised less commonly as pre-operative treatment. It is difficult to say whether irradiation increases the number of permanent cures. If radical mastectomy is performed before any carcinoma cells have spread beyond the field of operation and they are all removed surgically, the individual will be permanently cured, whether or not irradiation is used. If carcinoma has spread beyond the field of operation, it is likely that x-ray therapy will slow down the process and, therefore, be of advantage to the patient. Interstitial radium is recommended by a few authorities. Irradiation of the ovaries has been advocated by some. The results are indefinite. It may be advisable to irradiate the ovaries when carcinoma occurs during pregnancy, lactation, or possibly in young people.

CONCLUSIONS

1. Until some new discovery is made, the hope of cure of carcinoma of the breast lies in early diagnosis and treatment.

2. A simple lump of the breast should be suspected of being carcinoma. A cyst may be excluded by aspiration. If the tumor is solid, an immediate biopsy should be done.

3. Chronic mastitis and single blows to the breast rarely, if ever, cause carcinoma. The relationship of cystic disease of the breast to carcinoma is unsettled. Papilloma becomes carcinoma in a very high percentage of cases.

4. The treatment of carcinoma of the breast is biopsy with frozen section and immediate radical mastectomy. Irradiation should never be used alone except for inoperable cases. It is often combined with surgery in the treatment of carcinoma. In this case it may prolong life. Whether more cases are permanently cured by its use is unsettled.

* * *

National Morale Problem Requires Scientific Approach

"A bulletin just issued by the Association for the Advancement of Psychonalaysis calls attention to the increased discussion of the so-called war of nerves, or psychologic warfare," The Journal of the American Medical Association for February 21 says in an editorial on morale. "Modern warfare is discussed in terms of chemical warfare, psychologic warfare and even biologic warfare. Thus has civilization advanced!

"Perhaps it is a part of the German psychologic warfare to promote the belief that their propagandists have devised irresistible and psychologic weapons and stratagems with which the morale of opposing nations is led into helpless submission. The experts say that nothing could be further from the fact. The German psychologists know nothing beyond what American psychologists have contributed. Indeed there are many who are convinced that in psychologic science, as in other science, America leads the world. The bulletin of the Association for the Advancement of Psycholanalysis lists three basic principles which all of us should keep in mind:

"1. Under war conditions an increase in anxiety and tension is natural and inevitable. Unless this is realized, an individual might consider himself cowardly and contemptible when he is actually sharing a common experience. If anxiety incapacitates an individual, then it is most probably not associated with the war and represents a personal problem for which psychiatric aid might be consulted.

"2. Planned and directed efforts are valuable psychologic assets in controlling anxiety. Foolhardiness and impulsiveness are no cures for fear. They actually undermine individual and group morale.

"3. Inactivity and isolation from the group beget anxiety. Useful, well directed, interrelated tasks in the interests of the community not only diminish individual tensions but are constructive and sustain general morale.

"Obviously, morale is a matter of vital consequence to the nation. In July, 1940, a Committee for National Morale was formed including representatives of all the various social sciences. In a recent issue of the Journal of Educational Sociology (December, 1941), leading contributors discuss the importance of morale, the principle of morale building, the measurement of morale, the nature of the offensive from a psychologic point of view against the United States, and the danger points on the home front.

" 'A nation with good morale,' as is pointed out by Dr. A. U. Pope, 'is one with enthusiasm, confidence, teamwork and endurance.' Many people like to think that morale is just common sense. However, the building of morale involves psychologic principles and studies of public opinion far beyond anything we have yet attempted in this country. The processes of morale building are closely allied to the processes of education. That morale is best built which is built from thousands of small centers in a nation rather than that based on the prestige and power of a few national figures. The chief danger points in the home front are obviously the bickering and the arguments which tend to split the nation into small groups, many organized specifically to question national decisions. Some of the incidents which have already occurred now that we are in the war indicate that the problem of the national morale is an exceedingly real one; we have not yet begun to deal with it effectively."

On Specific Chemotherapy for Cancer

H. E. EGGERS, M. D.
From the Department of Pathology, University of Nebraska
College of Medicine

There has been published previously(1) a report on experiments made in an effort to determine whether toxic derivatives of glucose, administered intravenously, would affect the intra-vitam growth of cancerous tissue. In the experiments reported there, very considerable success was attained in the control of inoculable tumors of the rat, but only when the agent was given soon after the inoculation, and with the co-administration of insulin. Subsequent work has not yielded results as outstanding as those reported there, but indications of effect on tumor growth are perhaps sufficiently definite to warrant publication.

In this later work, another strain of tumor tissue, R2426, was used. This was obtained through the kindness of Dr. M. R. Curtis of the Department of Cancer Research of Columbia University, as was the strain of rats susceptible to this tumor. The characteristics of the tumor have been described by Eisen(2). Inoculated into rats of the parent strain, it yields 100% of successful takes. Such animals were used throughout in this work.

Three glucose derivatives were used: tetra-methyl-arsonium gluconate, tetra-ethyl-arsonium gluconate, and the gluconate of an unidentified arsenical base, produced by the heating under pressure of methyl iodide and arsenic trioxide. Details of this last preparation will be found in the first article cited, and the two others were prepared similarly, but with the use of metallic arsenic. The ethyl compound analogous to the unidentified methyl compound had proved too toxic to use, as when given in doses of 10 mg. per 100 g. of body weight, it killed rats regularly. The three compounds used here were of relatively low toxicity, as doses of 40 mg. per 100 g. were given to a number of animals without evidence of injurious effect.

The results on tumor R2426 may be summarized briefly. With none of the compounds used was there any evidence of permanent effect on tumor growth. However, while no effect whatever was apparent after the administration of 40 mg. doses of the tetra-methyl and tetra-ethyl compounds, given along with 1/10 unit of insulin, the similar administration of the third arsenical derivative was regularly followed by a very definite, although transient, retardation of tumor growth; at the time when untreated control animals showed tumors measuring 15 mm. in diameter, those of the treated animals measured at most 3 mm. But within the next week or two this retardation disappeared, and the subsequent course was similar to that in untreated animals. Checks made with the arsenical alone, and with insulin alone, in 1/10 unit doses, showed no apparent effect. A number of dibenzanthracene skin carcinomas of mice were treated with doses of 10 mg. of the arsenical and 1/20 unit of insulin, without apparent effect.

Some cautious experimentation has been done on human tumors. It may be well to state parenthetically that no cases were used in which more conventional methods of therapy promised hope of success, and in all cases the experimental character of the work, and its inherent danger, was explained to the patient. With some of these human cases, results were obtained which would suggest an effect on the course of the tumor. A summary of these cases follows:

Case 1. Papillary squamous cell carcinoma of the prepuce, of low malignancy. When first seen, this formed a cauliflower-like outgrowth on the prepuce, encircling ¾ of its circumference, and reaching a height of 1.5 cm. There was bilateral inguinal lymphadenopathy. Without surgery other than a diagnostic biopsy (Fig. 1), the patient was injected with 1 g. of the arsenical gluconate and 8 units of insulin. This latter dose was determined by the administration of a preliminary smaller dose of insulin, and was the proportionate amount necessary to reduce blood sugar to 50 mg. per 100 cc. During the week following the injection the tumor became definitely swollen, with the development of small superficial petechial hemorrhages, and following this there was regression in size until it reached approximately one third of its former lateral extent. By the end of the fourth week, however, this remaining portion showed renewed indications of active growth, and a month after the initial injection a simple circumcision was done, and

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*This work was done with the aid of a grant from the Committee on Research of The American Medical Association.

one of the enlarged inguinal glands was removed for examination. This gland, which measured 1 cm. in its largest diameter, was of firm consistency; sections showed no recognizable living tumor tissue, but occasional small nests apparently formed of necrotic keratinized epithelial cells (Fig. 2). Stained for kerato-hyaline by Unna's method, they showed the characteristic bluish-black granulations. Otherwise, the gland was markedly fibrosed. Two weeks after the circumcision, after a delay occasioned by a complicating respiratory infection, a second injection of 1½ g. of the gluconate and 8 units of insulin was given. The circumcision wound, still open at that time, healed promptly. In the course of the next few months, the enlarged inguinal glands shrank, and during six years of regular observation there has been no evidence of tumor recurrence.

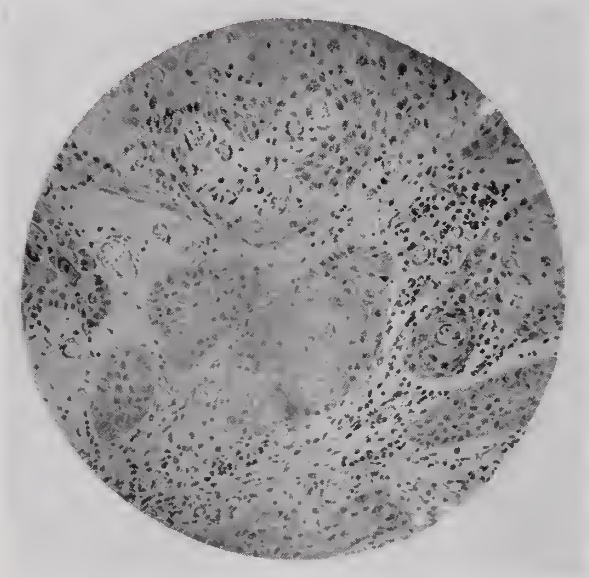

Fig. 1. Biopsy, primary tumor, Case 1.

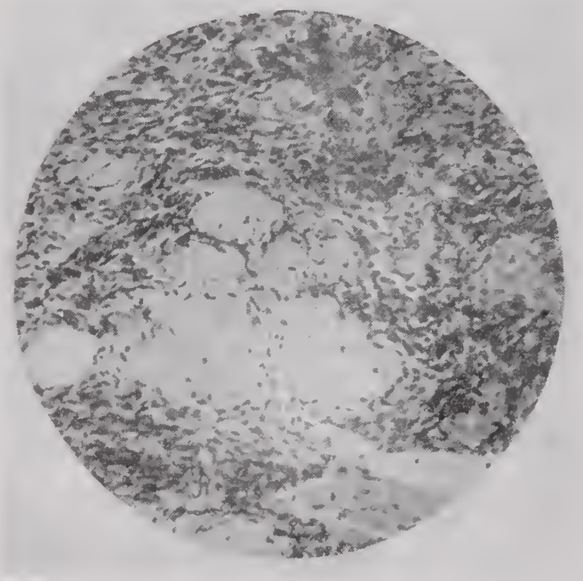

Fig. 2. Lymph gland, Case 1, 4 weeks after injection.

Case 2. Squamous cell carcinoma of glans penis. This formed an ulcerative lesion embracing the greater portion of the glans. Although the inguinal glands were enlarged, sections after biopsy of one of them failed to show tumor tissue. After amputation of the distal one half of the penis, the patient was injected intravenously with 2 g. of the arsenical and 10 units of insulin. At the time of the death of the patient three years later, there was no evidence of tumor recurrence. (Fig. 3).

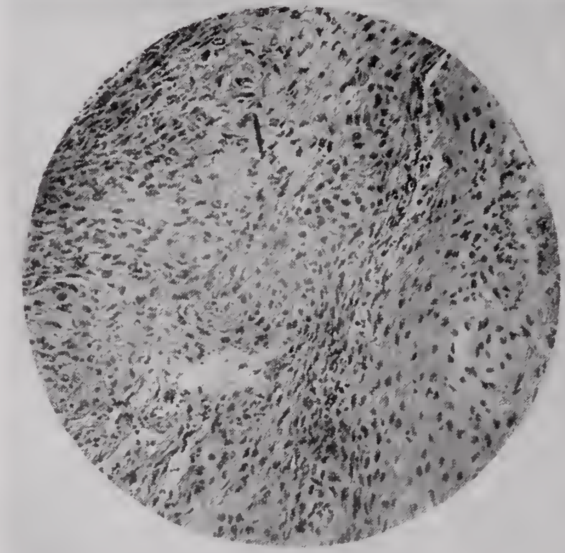

Fig. 3. Biopsy, Case 2.

Case 3. Squamous cell carcinoma of penis, of high malignancy. The patient was suffering from a severe case of concomitant coronary disease. After as thorough cauterization as possible of the primary tumor, and excision of one of the bilaterally enlarged glands for examination (Fig. 4), 1½ g. of the arsenical were given along with 10 units of insulin. The patient died a month later of coronary occlusion. At autopsy, there was definite evidence of recurrence of the primary tumor. The inguinal glands were studded with small unorganized masses, apparently of cellular debris, which in turn were flecked with small granules of what appeared to be disintegrated nuclear material, possibly calcified. Nothing of this character was apparent in the iliac glands. (Fig. 5).

Case 4. Squamous cell carcinoma of dorsum of hand. The primary tumor had been thoroughly irradiated, and was no longer in evidence, but the patient reported with a large axillary metastasis. (Fig. 6). This was excised, and 3 g. of the arsenical and 11 units of insulin were injected. There has been no evidence of recurrence in the elapsed four years. (Fig. 6).

In addition, a considerable number of advanced cases of carcinomatosis have been treated, without any perceptible effect, even after repeated doses. Among these, however, there were occasional cases in which there were apparent minor indications of selective action of the arsenical. Two cases of malignant melanoma were treated, both of which had had the primary tumors removed surgically, and both had axillary metastases. Both volunteered the information, after injection, that the glands remaining after biopsy had become swollen and tender after the injection; with one case, this was checked by a second biopsy, a remaining gland being found waterlogged and largely, but not wholly, necrotic, in this respect in marked contrast to that originally removed. In the second case, palpable glands disappeared after the second injection, and attempts at second biopsy were unsuccessful. Both cases, however, died within the year with visceral dissemination. In addition, in one case of very rapidly growing superficial sarcoma of the leg, there was very definite retardation of recurrence after repeated injections, when these were given shortly after removal by currettage, of the tumor. This retardation was not apparent when an interval of over two days was allowed to intervene between curettage and injection. This case died of cerebral hemorrhage while under observation. Autopsy showed no evidence of metastasis. The behavior of the tumor in this case was similar to that of rat tumor R2426.

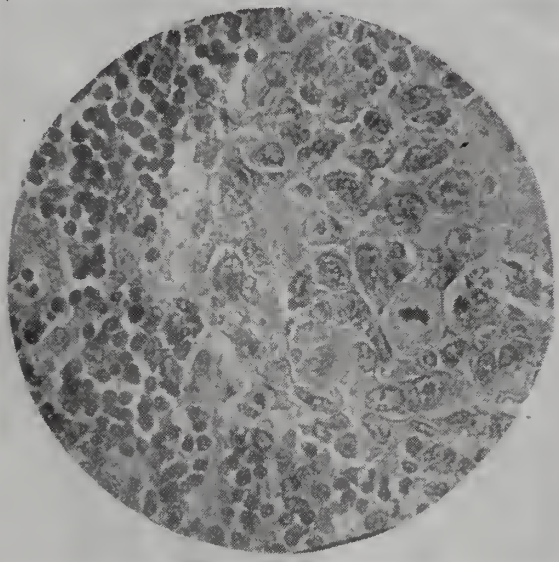

Fig. 4. Biopsy, lymph gland, Case 3.

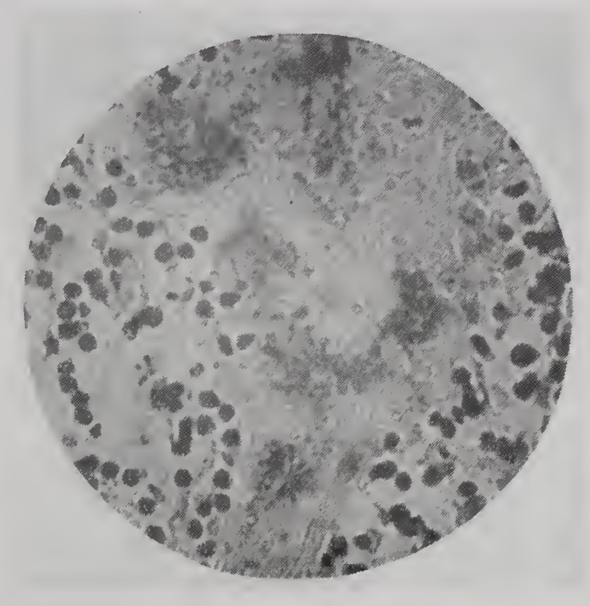

Fig. 5. Lymph gland, Case 3, 4 weeks after injection.

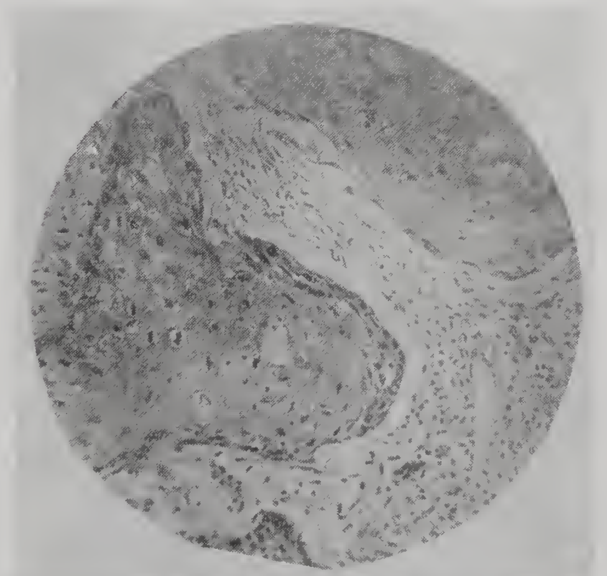

Fig. 6. Biopsy, Case 4.

SUMMARY

Attempts at establishing a specific effect on cancerous tissue by the intravenous injection of toxic derivatives of glucose have given indications that such an effect is obtainable.

This effect was apparent only when the amount of tumor tissue was limited; either by limited period of growth, or by operative removal.

The apparent effect was in some cases complete arrest of further progress, and disappearance of the tumor; in others, temporary retardation of growth.

As a rule, these effects were observed only when the injection of the glucose derivative was accompanied by that of insulin.

Among the tumors with which these effects were observed, were several cases of human cancer.

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Causes of Rejections of Selectees at Army Induction Station

Individual variations in the interpretation of regulations prescribed by the War Department for Army physical examinations are believed to be responsible for some of the rejections of selectees at Army induction stations after they have been passed by local draft boards, Milton S. Saslaw, M. D., Captain, Medical Corps, United States Army, and Carl S. Junkermann, M. D., Major, Medical Corps, United States Army, Camp Shelby, Miss., point out in the current issue of War Medicine, published by the American Medical Association in cooperation with the National Research Council.

They say, however, that "at the present time, revision of the regulations . . . is in progress, and it is hoped that the new regulations will clearly set forth exact requirements."

Their report is based on a study of statistics regarding rejections at the induction station at Camp Shelby for April, May and June, 1941, compared with those for December, 1940, through March, 1941.

In a previous report Captain Saslaw had presented the most common causes for rejection "with an idea of helping prevent other local draft board physicians from making the same errors. Several methods were outlined as possible means to obviate the high rejection rate, one of which, the lecture-demonstration tour through key cities, was tried in the state of Mississippi."

During the first period the three largest causes of rejection were flat feet (39.8 per cent), general body defects (8.6 per cent) and hemorrhoids (4.5 per cent). For the second period of study the percentages were as follows: flat feet, 13.8 per cent; general body defects, 10 per cent, and hemorrhoids, 1.5 per cent. In the second period venereal diseases led the entire group, with a rejection rate of 15.3 per cent. Flat feet was second and mental condition was third (11.2 per cent).

The two authors say that "The increase in the venereal disease rate is perhaps partly explained on a seasonal basis, but there is no doubt that greater caution was exercised at the induction station to ferret out cases of such disease. The decrease in the rate of rejection for pes planus is explainable partly by the beneficial effects of the lecture-demonstration tour and partly by a more liberal interpretation of the existing regulations. The high rate of incidence of mental conditions is not real. It is explainable on the basis of inclusion in this group of selectees unable to pass a literacy test begun May 15. Illiterate selectees were included in this group (and in fact, constituted by far the largest part) because in the previous statistics a certain number of illiterates had been included. . .

"The monthly rejection rate dropped from 30.4 per cent in February and 33.7 per cent in March to 22.8 per cent in April, 20.8 per cent in May and 22.5 per cent in June. One is tempted to assume from these figures that the lecture-demonstration tour made through the state of Mississippi was successful in decreasing the number of rejections. Actually, however, this is not the entire truth. During this period a change in personnel, along with a change in attitude toward greater liberalism in interpretations of regulations, occurred, and this greater liberalism was as effective as was the lecture-tour demonstration."

Treatment of Cancer of the Bowel*

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Louis Dublin, chief statistician of the Metropolitan Life Insurance Company, has stated that 160,000 people die annually in this country of cancer. Of these 50 per cent or 80,000 die of cancer of the gastro-intestinal tract; 50,000 of cancer of the stomach and 30,000 of malignant disease of the colon and rectum.

In frequency cancer of the colon and rectum is second only to cancer of the stomach and contrary to general opinion exceeds in frequency cancer of the uterus and breast.

Furthermore, Dublin has computed that at present 500,000 or one-half million people in the United States have cancer; two-thirds of them being unaware of it. We may assume, therefore, that 300,000 people at this moment have cancer in reasonably early stages, and that the majority of these could be cured if only recognized. In this early curable group there are upon statistical basis 50,000 people with cancer of the colon and rectum.

In relation to cancer of the bowel these facts have special significance for the reasons that, these tumors give rise to early symptoms and; despite the fact that the majority of cases come to surgery six months or more after the onset of symptoms surgical excision gives a fairly high percentage of long cures.

Unfortunately symptoms cause so little discomfort and inconvenience that they are accredited no significance for long periods of time. In a series of 102 cases reviewed by me 82 per cent gave histories of symptoms in excess of 6 months and 38 per cent in excess of one year. The appalling fact is that the majority of these patients had sought medical advice months before the condition was recognized. In 61 cases or 60 per cent of this series the tumors were located in the rectum or at the recto-sigmoid juncture and were readily palpable by digital rectal examination. It would seem unnecessary to discuss anything so elementary as the rectal examination and yet out of 14 cases specifically questioned, in only 5 had rectal examinations been done prior to hospital admission. Most of these patients were indigent, precluding radiographic or other examinations by their physicians involving cost but the diagnosis could have been made in each instance by the simple procedure of inserting a finger into the rectum. Although every physician knows the importance of routine rectal examinations, there exists a certain inexplicable reluctance about putting it in practice.

It is interesting that many of the cases had been treated for hemorrhoids and in 8 of the 102 cases hemorrhoidectomies had been performed within a few weeks prior to the time that the tumor was recognized.

The late Dr. D. F. Jones, summarized the problem in these words, "There is no disease that can be diagnosticated with more accuracy than cancer of the rectum after the patient once presents himself, and yet there are few diseases which are diagnosticated so late in their course."

Symptoms vary primarily in respect to the location of the tumor. Obstructive symptoms occur with 87 per cent of tumors in the left half of the large bowel but with only 13 per cent of those of the right half. The obstruction is a slowly progressive chronic form characterized by increasing obstipation often alternating with a pseudodiarrhea, and only late in the course, causing pain, distention, and vomiting. Only occasionally does acute obstruction develop. On two occasions recently I have seen acute obstructions develop following the administration of barium by mouth in carrying out gastro-intestinal x-ray studies. Whenever there is any reason to suspect a lesion of the large bowel the barium enema should precede the upper gastro-intestinal series.

Macroscopic bleeding is much more common with lesions of the left side and bright blood almost invariably locates the tumor distal to the hepatic flexure.

Tumors of the right half of the colon give rise to symptoms by which the cases may be divided into three groups. First, there is a large dyspeptic group with symptoms simulating appendicitis or cholecystitis; second, a group characterized by secondary anemia and weakness, which is often severe. Carcinoma of the caecum should always be suspected in a consideration of an unexplained secondary anemia. The absence of occult blood in the stools does not exclude carcinoma of the bowel as a cause of the anemia. Not infrequently cases are observed in which stools are repeatedly negative for occult blood. In the third group a palpable tumor which has been relatively asymptomatic is discovered either by the patient or by a physician during the course of a routine examination.

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*Read before the 46th annual meeting of the Utah State Medical Society August 29 to 31, 1941 Ogden, Utah.

With any of these symptoms or with any persistent change in the normal bowel habit the presence of a tumor should be suspected and its presence and location promptly investigated by digital, sigmoidoscopic or X-ray examinations.

A discussion of treatment should begin by stressing the importance of recognizing and dealing with precancerous lesions of the bowel. It has been shown rather conclusively that some carcinomas of the bowel have had their origin in polyps, papillomas and adenomas and that these lesions are almost certain to become malignant if the host lives long enough. It is therefore, important as a prophylactic procedure to excise these benign lesions if feasible whenever discovered regardless of whether they have given rise to symptoms such as bleeding or have been found incidentally. From the rectum they can be excised or fulgerated directly or through a sigmoidoscope. From the colon single lesions or localized groups can be excised from the open bowel fulgerated through a regional temporary colostomy or removed with a segmental resection of the involved segment of bowel. But when confronted with multiple widely scattered lesions or diffuse or generalized polyposis a limited or extensive resection becomes necessary and one must weigh the problem of surgical risk against an almost certain risk of carcinoma ultimately developing in one of the polyps, often not an easy problem to decide.

It is usually possible to rid the rectum and distal sigmoid of polyps by means of fulgeration and thereby preserve them even in cases in which it is necessary to resect the remainder of the colon.

The treatment of carcinoma is either radical (with prospect of cure) or palliative. If the tumor is resectable surgical excision offers the only chance of cure and one has only to decide whether the tumor is resectable, that is resectable in respect both to the lesion and to the condition of the patient. Often resection is indicated as a purely palliative procedure. This is particularly true in respect to carcinoma of the rectum. Even with remote metastases apparent at the time of the resection some patients live from one to three years in comfort and are spared a long period of distressing tenesmus and pain. Except for relief from pain in advanced cases and shrinkage of the tumor prior to resection irradiation has little to offer in therapy. This statement excludes squamous cell epitheliomas of the anus. These tumors metastasize early to the inguinal lymph nodes and in general have a bad prognosis. Furthermore they do better when treated by radium and X-ray irradiation.

In discussing treatment I want to emphasize the importance of the preoperative preparation of the patient. This is as important in point of mortality as the technical skill and judgment of the surgeon. In regard to the obstructed patients—seldom is it necessary to do an emergency operation for relief of obstruction. Some lessening of distention can always be obtained, and often complete deflation with temporary relief of obstruction can be effected by means of constant suction applied through a Miller-Abbott tube, passed into the terminal ileum and by repeated warm oil and half strength peroxide enemas. If for any reason these procedures cannot be carried out or are ineffectual, a proximal decompression operation (a temporary transverse colostomy or caecostomy) must be done and preferable by exteriorization. In no event is the need for relief of obstruction so pressing that several hours cannot be devoted to deflating the stomach and bowel and to restoring the patient's water and mineral balance by the intravenous administration of fluids. In most obstructions there has been some loss of blood plasma into the bowel so that preoperative plasma or whole blood transfusions are often desirable and indicated.

Most of the patients present anemia, varying from a mild to a very severe degree and I am convinced that radical operations should never be undertaken until the erythrocyte count and hemoglobin have been restored to nearly normal values by means of blood transfusions. This may necessitate the giving of several liters of blood in extreme cases.

Likewise, most of these patients have lost some weight, and this is evidence of malnutrition. In efforts to restore them to as nearly a normal state as possible an attempt should be made to replenish their food stores. Carbohydrates and proteins should be forced in a high caloric diet fortified with the synthetic preparations of vitamin B complex and C both during the period of preparation and continued parenterally after operation. To facilitate operation the diet should be nonresidue and for left sided lesions the bowel should be purged 48 hours before operation and within 12 hours it should be washed clean with saline enemas.

Vaccination of the peritoneum 48 hours before operation by introducing killed bacteria into the peritoneal cavity with the hope of establishing some local immunity has been abandoned by most surgeons. Prophylactic chemiotherapy is at present in the throes of experimental investigation. There is some evidence that the administration of sulfanilguanidine for several days prior to operation may so reduce or alter the bacterial flora of the colon as to eliminate some of the hazard of peritonitis. There is also good statistical evidence that sufanilamide administered by mouth before operation and applied to all exposed surfaces of the peritoneum and abdominal wall at operation is equally or more effective in preventing infection.

For operation upon the bowel spinal anesthesia offers distinct advantages. By giving complete relaxation of the abdominal wall and maintaining tone in the bowel such operations are much facilitated, particularly resections of tumors of the rectosigmoid and rectum.

If patients have been properly prepared for operation and if the proper judgment has been exercised in planning the operative attack to the problems in the individual cases the operative mortality should be relative low (less than 8%). One of the hazards is peritonitis. This can be almost but not entirely prevented by the use of aseptic technic and by preventing tension on suture lines. This is accomplished (1) by aseptic type of anastomosis in right sided lesions plus the use of the Miller-Abbott tube, (2) by extraperitoneal Mikulicz's or closed type resections for tumors of the transverse, descending and sigmoid colon, (3) by preliminary transverse colostomy or caecostomy when direct suture with aseptic technic is done on the left colon, (4) by aseptic combined abdominoperitoneal resection or posterior resection in one or two stages and (5) by the topical application to the peritoneum and wound of sulfanilamide and sulfathiozole powder and the oral or parenteral administration of one of these drugs preceding and following operation.

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A BOUQUET FOR OUR HEALTH DEPARTMENT

A New Idea in Health Education

Health educators say that audiences are where you find them and that one needs merely speak in terms familiar to those one would reach and influence. Seldom are convictions in such tangible form as in the newly issued Nebraska Health Almanac(1). This book resembles the old fashioned "patent medicine" almanacs. Interspersed with the other items are many relating to medical history, not only in the larger sense, but local to Nebraska. A two page spread is devoted to each month. On the left hand page is the calendar, with a special brief illustrated suggestions. Beginning with January, these deal month by month with safety on Nebraska highways, whooping cough, typhoid, food and the teeth, safe water, the common cold, the home medicine cabinet, rabies, infantile paralysis, encephalitis, adequate diet and mental hygiene in the home. On the right hand pages are articles dealing with various phases of health and the work of the state health department in Nebraska. At the end of the volume are a few pages devoted to cancer, the school health program, athletics, venereal diseases, health of the eyes, and a year's summary of vital statistics. This almanac should make an effective instrument in health education.—From the Journal of the A. M. A.

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1. Department of Health, State of Nebraska, Lincoln, 1942.

Bilateral Rupture of Biceps Brachii Lower Tendon

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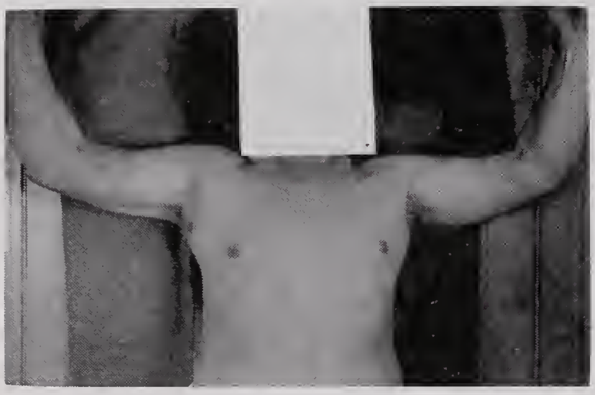
Omaha, Nebraska

Tendon ruptures in recent years have been frequently observed and extensively reported. No reference, however, is found of a bilateral rupture of the lower biceps tendon.

No. 918, a male in the fifth decade of life, was seen complaining of weakness and pain in both elbows. One month previously, while trying to balance a one ton load of millwork on a four-wheel truck going down an incline, he felt a sharp snap in both elbows followed by pain. Medical treatment consisted of local physiotherapy and immobilization of elbows in flexion by means of slings. Ecchymoses developed from shoulder to below the elbows. Pain regressed after the third week unless arms were actively flexed; weakness, however, persisted.

Examination showed a stocky, white male, weight 200 pounds, unable to actively extend or externally rotate the arms against resistance. Passive shoulder ranges were one-half of normal, provided the elbows were retained in flexion. On active elbow flexion, definite depressions were visible at each biceps lower thirds (Fig. 1). Palpation revealed a curled mass distal to each depression. The cubital spaces lacked the usual anterior prominence marking the lower biceps tendon. Active elbow flexion was 25% of the extension power, supination being very weak, both efforts producing pain. Forearm and hand strength was excellent. Surgical repair of both tendon injuries was advised; the patient refused.



When seen seven months after the accident, the patient stated he had no pain but that weakness, especially twisting forearm (supination) was the chief disability. The depressions in lower one-third of biceps muscles persisted. Active elbow flexion equalled 75% of the extension; supination was fair only. The result appeared much better than had been anticipated without surgical repair. Evaluating the end result for the insurance carrier, the disability was estimated at 24% of each arm, using McBride's(1) criteria.

Biceps tendon rupture, first described by Chamseru(2), is rare in the lower tendon. Gilcreest(3) found only 19 cases of rupture of the lower tendon and added 3 of his own. Verster(4) reported one patient with a recent rupture of the biceps tendon on one side, the opposite side showing a typical deformity of a tear of the long biceps tendon following an exertion two years previously. As regards bilateral lesions, Meyerding(5) and James(6) have each reported spontaneous bilateral ruptures of quadriceps tendons following exertion and accident respectively. Andreasen(7) has reported a bilateral rupture of extensor pollicis longus, one side 4 days following a fall off a cycle, the other 10 days later.

The patient described is of interest as treatment was entirely conservative and the final evaluation showed surprisingly good function.

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BOOK RECEIVED

The Blood Bank and the Technique and Therapeutics of Transfusions, by Robert A. Kilduffe, A. B., A. M., M. D., F. A. S. C. P.; Director, Laboratories, Atlantic City hospital; City Bacteriologist, Atlantic City; Serologist, Municipal Hospital for Contagious Diseases, Atlantic City; Pathologist, Atlantic County Hospital for Tbc. Diseases; Serologist, Betty Bacharach Home for Crippled Children; Serologist, Jewish Seaside Home, Atlantic City, etc.; Formerly, Major, Medical Corps, United States Army and Michael DeBakey, B. S., M. D., M. S., F. A. C. S.; Assistant Professor of Surgery, School of Medicine, Tulane University of Louisiana; Visiting Surgeon, Charity Hospital, Touro Infirmary, and Mercy Hospital, New Orleans; Associate in Surgery, The Ochsner Clinic, New Orleans. 558 pages, including index and references, with 214 illustrations and 1 color plate. The C. V. Mosby Company, St. Louis, 1943. Price $7.50.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical sevices and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

IN TIME OF WAR WE MUST PREPARE FOR PEACE

To the realistic observer there is ample evidence that the economics of private medical practice is rapidly changing. The government, under stimulus of the emergency, has expanded its functions and activities to the point where there is hardly any distinction between the usual concept of public health and individual medical care. If these broadened measures serve to strengthen home morale and help bring about the defeat of insatiable aggressors, then in the interests of the nation and its allies organized medicine considers it a sacred privilege to cooperate with every legitimate agency in an effort to do the job smoothly and efficiently. There can be no compromise with Patriotism.

However, in an all-out endeavor to win the war, let us not sacrifice needlessly professional freedom when the struggle is over. Wars always bring permanent social reforms. Some are good, others not so good, and still others distinctly bad, depending upon the intelligence, sincerity, and ability exercised by leaders. In the end, however, social changes are the outgrowth of demands of the masses. In a democracy the citizens themselves shape the destiny of their institutions.

The corollary is obvious. The physician has an important function in popularizing the ideals and aims of American Medicine, its nature and achievements under free enterprise, its service to the individual, the community and to society as a whole. Simple truths told to every patient by every physician, when the opportunity presents itself, in simple language in favor of our present system will be more effective than any oratorical harangue against the American Medical Association by misguided crackpots and professional reformers.

In this connection it is well to remember that the National Physicians Committee for the Extension of Medical Care is attempting to disseminate information on American Medicine through many channels. This Committee deserves the support and assistance of every physician. In the light of the Nine Freedoms which President Roosevelt has enunciated in his recent message to Congress few will question the necessity of widespread public appreciation of medical achievement under a system of free enterprise.

IODINE AND THE THYROID GLAND

After many years of investigation certain facts concerning the relationship between iodine and the thyroid gland seem to have been determined.

Iodine in small quantities during early life, taken orally, appears to prevent the formation of colloid goiter, although it will not remove colloid goiter after the goiter has appeared.

In non-toxic adenoma iodine given over long periods will apparently activate the adenoma and result in a toxic goiter.

In adenomatous goiter which has become toxic through some other cause iodine will, when given over a short period, diminish the toxicity of the gland, but having once exerted its influence upon the toxic gland it will not repeat the effect at a later time after a period of rest from iodine therapy.

Iodine therapy has its greatest effect in hyperplastic exophthalmic goiter. When given intensively in this condition it will cause a diminution in the size of the cells accompanied by a lessening of the constitutional symptoms with a temporary betterment of the clinical condition. If treatment is prolonged it will frequently activate small adenomas which are usually present in the exophthalmic gland and add a toxic adenoma to an already present exophthalmic goiter.

The conclusion to be drawn from these data appears to be plain. Iodine given in goiter over a long period of time is not of material benefit to the patient. Rather it does harm, because if the gland is to be removed one of the greatest mainstays for the preparation of the patient for operation has been rendered of only slight or questionable value.

The inference would be that in case of toxic goiter iodine treatment should be withheld until such time as operation is decided upon and should then be used intensively as a preoperative measure in order to obtain the greatest benefit from its use.

—Alfred Brown, M. D.

OUR FIGHT AGAINST CANCER

C. C. Little, ScD., Managing Director of the American Society for the Control of Cancer

The real existence of the greatest national emergency in our history is now recognized by every intelligent American citizen. Along with the vast demands made upon our courage and patience by this situation is a keener realization of our responsibilities to care for the lives and happiness of those unfortunate people who find themselves in personal physical adversity.

The greatest of all these menaces to the health, happiness and life of our people is cancer. The quality of its threat and of its power as a killer is unique. War itself may take a larger toll of Americans in the years to come. Various heart conditions of cardiac disease may do the same thing. Neither, however, will so silently, so grimly, and with such evil power to disintegrate moral stamina, invade the lives and families of our people. We must not lose sight of this fact. No matter what our emergency obligations may be, we must not forget this great continuing enemy of mankind.

Fear, ignorance, and delay are the three allies of cancer which lead to disaster and death. They can be overcome by knowledge of the early signs and symptoms of the disease and of the methods of fighting it. The American Society for the Control of Cancer throughout the country has for years been engaged in this battle. It is making progress. It must not lose the gains made, and indeed must drive ahead. The defeat of fear, ignorance, and delay lies in the adoption of an intelligent and controlled point of view by each individual. These same qualities will contribute to his or her success in fighting whatever the national emergency may present.

The fight against cancer is an ally in the fight against our foreign enemies. The methods are much the same. The qualities appealed to in the individual are similar. The complete victory spoken of by the President in discussing the international situation is just as applicable to our fight against cancer. Both victories can be gained. We must recognize how closely they may be related to one another and must act speedily, courageously, and untiringly to make both possible.

CONFERENCE ON MEDICAL SERVICE PLANS

The first Conference on Medical Service Plans was held in Chicago on February 14, 1942, at the headquarters of the American Medical Association and the Palmer House. A total of sixty-four persons were present, including representatives from operating and proposed medical service plans in seventeen states and officers of state and county medical societies.

Dr. Olin West, Secretary and General Manager of the American Medical Association, welcomed the representatives and stated: "You are distinctly a part of a great movement that is essential to the welfare of the people of this country and it is highly desirable that you should get together to exchange information and opinions in order to arrive at a basic understanding of the problems involved."

Mr. J. D. Laux of Michigan Medical Service, who was elected Chairman of the Conference, indicated that interest in some form of prepayment for medical services has been moving along three well-defined points: (1) group clinic or consumer plans such as the Ross-Loos Clinic or the Transport Workers Medical Plan, of which there are seventeen such plans in operation with a total enrollment of 100,000 persons; (2) employee-employer mutual benefit associations (300 in operation) and the commercial insurance company plans (at least 250) providing cash indemnity benefits totaling $365,000,000 annually; and (3) non-profit medical service plans sponsored by medical societies, of which there are 33 plans in operation in 9 states with an enrollment in excess of 750,000 persons. The non-profit medical society sponsored programs are developing most rapidly and give the best promise of contributing toward a better distribution of medical service.

The entire day was devoted to consideration of the basic principles and major problems involved in medical service and limited surgical benefit programs sponsored by medical societies. The following are some particularly pertinent points brought out in the discussion:

Contract practice plans limiting service to a small number of physicians can not provide a satisfactory service for an entire community. Non-profit community-wide or state-wide service plans are the proper type of organization for prepayment of medical services.

The statement that voluntary plans lead to compulsory insurance applies to the chaotic situation created by a multiplicity of lay controlled or commercial plans not to medically sponsored community programs.

In medical society sponsored programs, the contribution of the profession is the offering of services without additional charge to persons in the under-income group. Under a plan providing cash indemnity, the only thing the medical profession furnishes — service protection to the individual—would be taken away.

Experiments in the full coverage type of medical service plan are being undertaken to determine the effect of such plans on the private practice of medicine; how such plans affect the physician-patient relationship; what problems arise in connection with the practice of specialists; the difference between urban, rural, and metropolitan practice; and all general problems relating to medical care.

A differential arrangement for specialists is a problem which one medical service plan treats in the following manner: When a subscriber uses a specialist as his family physician, the specialist receives general practitioner fees for such service. However, in the event the subscriber is referred to a specialist by his family physician for special services, an increased fee is paid. To be eligible for increased fees, the specialist must confine himself strictly to his specialty.

Enrollment based on individual physical examinations does not furnish as good selection as group enrollment.

The desirability of establishing somewhat uniform or model legislation for medical service plans was emphasized.

The question of the extent of joint operations with hospital service plans and the appropriate basis for cooperation lead to the establishment of a committee to meet with a committee from the hospital service plans.

It is of utmost importance to establish a centralized agency for the collection and dissemination of information. R. G. Leland, M. D., Director of the Bureau of Medical Economics of the American Medical Association, outlined a program of coordination through establishment of a glossary of terminology, an organizational outline of the plans, and a composite tabulation of financial and statistical reports.

The Conference concluded with the appointment of a committee to determine the best method of establishment of a permanent organization of medical service plans throughout the country.

ANNOUNCEMENTS

The following amendment to the Constitution was introduced at the Annual Meeting in Lincoln in May, 1941:

Amend Article 12 of the Constitution by striking out in the first sentence these words: "registered at that Annual Assembly" and substituting these words: "present and voting on the question provided that a quorum of the House of Delegates is present and further;"

Article 12 on Amendments would then read as follows:

"The House of Delegates may amend any Article of this Constitution at any Annual Assembly by a two-thirds vote of the members of the House present and voting on the question provided that a quorum of the House of Delegates is present and further; provided, however, that such proposed amendment shall have been presented in writing in open meeting at the previous Annual Assembly of the House and that it shall have been officially sent to each Component Society at least sixty days prior to the first meeting of the Annual Assembly at which final action is to be taken."

This amendment will be up for consideration at the next session in Omaha, May 5th, 6th and 7th, 1942.

"The semi-annual assembly of the Nebraska Guild of the International College of Surgeons will be held in Lincoln, Nebraska, Thursday, April 16, 1942 at St. Elizabeth Hospital.

Operative clinics will be held during the forenoon with lunch and a program at the hospital. The afternoon will be devoted to dry clinics and program.

The guest surgeon for this meeting will be Dr. Andre Crotti of Columbus, Ohio. He will operate several thyroid cases in the morning and take an active part in the program in the afternoon. Dr. Crotti is well known to many surgeons in the United States. For many years he was assistant to Dr. Theodore Rocker of Berne, Switzerland, and he himself is considered an authority on diseases of the thyroid. He has contributed much to the literature and recently published a textbook on this subject. Dr. Crotti is Past President of the International College of Surgeons, also Past President of the United States Chapter of the International College. He is a Governor of the American College of Surgeons and formerly instructor of surgery in the University of Ohio.

In the evening following the day meeting. a dinner will be given in honor of Dr. Crotti at which time he will speak on an interesting subject. All members of the medical profession are cordially invited to attend any of these meetings and the dinner in honor of Dr. Crotti.

Second American Congress on Obstetrics and Gynecology, St. Louis, Missouri,
April 6-10, 1942

The program for this important gathering in the interests of American womanhood has been designed to supply the needs of the varied groups concerned, —The doctor, nurse, hospital administrator, public health worker, and educator. In order to develop closer contacts between these groups, a wide variety of presentations will be provided, including several innovations, three "Obstetric Information, Please" hours, clinical conferences, demonstrations of home deliveries, transfusions, obstetric procedures on the manikin, and opportunity for personal consultations with well-known specialists. There will also be a luncheon meeting, with a discussion of War Problems.

In addition there will be extensive scientific and technical exhibits.

In view of the expected large attendance, hotel reservations should be made in advance. The registration fee of five dollars may be sent to the Headquarters office, 650 Rush Street, Chicago, Illinois.

Postgraduate Course Announcement
April 13-24, 1942

Presenting Norman R. Kretzschmar, M. D., Associate Professor of Obstetrics and Harry A. Towsley, M. D., Associate Professor of Pediatrics, University of Michigan, Ann Arbor, Michigan, as instructors, the Maternal and Child Health Committee, Nebraska State Medical Association and Maternal and Child Health Division, State Department of Health, again announce a series of Postgraduate clinics and lectures in obstetrics and pediatrics. The Councilor Districts and local medical societies are hosts to the meetings and each District will mail out its specific program to the physicians in the area.

At each point an obstetric case clinic at 2 p. m., and pediatric case clinic at 3:30 p. m., is contemplated with 6:30 dinner hour followed by the evening lectures as announced locally.

Listed are the clinic lecture points with topics of lectures as chosen by each District:

POSTGRADUATE CIRCUIT COURSE
Obstetrics and Pediatrics
April 13-24, 1942

Day Date	Dist.	Lecture Point	Hospital Clinics OB ---- 2 p. m. PED-3:30 p. m.	***Topics for Topics for Evening Lectures (7:30 p. m.)	Lecturers	Councilors
Mon. 13	12	Alliance	St. Joseph's	*Asphyxia Neonatorum: a. Obstetric Viewpoint. b. Pediatric Viewpoint.	Dr. N. Kretzschmar Dr. H. Towsley	Dr. G. W. Pugsley, Bayard, Nebr.
Tues. 14	12	Scottsbluff	West Nebraska Methodist	Medical Complications of Obstetrics: Heart, Tuberculosis and Anemias. Deficiency Diseases in Infancy and Childhood.	Dr. N. Kretzschmar Dr. H. Towsley	
Wed. 15	11	North Platte	St. Mary's	Medical Complications of Obstetrics: Heart, Tuberculosis and Anemias. **Immunization Against Infectious Diseases.	Dr. N. Kretzschmar Dr. H. Towsley	Dr. J. B. Redfield, North Platte, Nebr.
Thurs. 16	10	McCook	St. Catherine's	*Asphyxia Neonatorum: a. Obstetric Viewpoint. b. Pediatric Viewpoint.	Dr. N. Kretzschmar Dr. H. Towsley	Dr. H. S. Andrews, Minden, Nebr.
Fri. 17		Grand Island	St. Francis'	Medical Complications of Obstetrics: Heart, Tuberculosis and Anemias. Deficiency Diseases in Infancy and Childhood.	Dr. N. Kretzschmar Dr. H. Towsley	Dr. M. O. Arnold, St. Paul, Nebr.
Mon. 20	6	York	Lutheran	Medical Complications of Obstetrics: Heart, Tuberculosis and Anemias. **Immunization Against Infectious Diseases.	Dr. N. Kretzschmar Dr. H. Towsley	Dr. C. W. Way, Wahoo, Nebr.
Tues. 21	5	Fremont	Dodge County Community	Medical Complications of Obstetrics: Heart, Tuberculosis and Anemias. **Immunization Against Infectious Diseases.	Dr. N. Kretzschmar Dr. H. Towsley	Dr. W. Neumarker, Columbus, Nebr.
Wed. 22	4	Norfolk (Evening meeting at Hotel)	Lutheran	*Asphyxia Neonatorum: **Immunization Against Infectious Diseases.	Dr. N. Kretzschmar Dr. H. Towsley	Dr. E. Brush, Norfolk, Nebr.
Thurs. 23	2	Nebraska City	St. Mary's	Medical Complications of Obstetrics: Heart, Tuberculosis and Anemias. Deficiency Diseases in Infancy and Childhood.	Dr. N. Kretzschmar Dr. H. Towsley	Dr. C. Andrews, Lincoln, Nebr.
Fri. 24	3	Falls City	Our Lady of Perpetual Help	Medical Complications of Obstetrics: Heart, Tuberculosis and Anemias. **Immunization Against Infectious Diseases.	Dr. N. Kretzschmar Dr. H. Towsley	Dr. W. E. Shook, Shubert, Nebr.

*A colored motion picture showing research work by Drs. Kretzschmar and Towsley on "Gaseous Exchanges in the Blood and Pathological Brain Tissue Findings."

**A colored picture showing "Communicable Diseases—Diagnostic Signs and Active and Passive Immunization Procedures."

***Place of lectures announced locally.

NEWS and VIEWS

To meet the demands of the rapidly expanding armed forces of the United States, Brigadier-General Charles C. Hillman announced early in March that 24,000 physicians would be required this year.

Dodge county spent $8,168 for medical care of its assistance cases in 1941; in 1940 the amount was $12,110. The figures for 1941 included $4,458 for medical and dental care, $338 for medical supplies, and $3,321 for hospitalization.

Doctors James F. Kelly and Arnold Dowell of Creighton Medical School faculty are the authors of a book entitled, "Roentgen Treatment of Infections."

The University of Nebraska Medical College has gone on a full year instruction basis, admitting the freshman class June 12, 1942 and ending March 13, 1943. The sophomore year will run from March 26, to December 11, 1943; and the junior year from December 1, 1943 to September 23, 1944 to June 9, 1945. By 1944 it is estimated the accelerated program of the nation's medical schools will have added 5,700 graduates.

According to Dr. A. L. Miller, state health director, Nebraska will receive $13,000 of Federal money, part of which will be used for equipment in defense areas in connection with veneral disease control.

Dr. J. W. Hemphill of North Loup, last month, celebrated the fortieth anniversary of his arrival in North Loup.

The University of Georgia Medical School has been dropped from the accredited list of medical colleges according to a report issued by the Council on Medical Education and Hospitals of the American Medical Association.

Dr. C. C. Applewhite, regional director of the United States Public Health Service addressed the Omaha Public Health Forum on March 9th at the Joslyn Memorial. The discussion centered around Omaha's needs for a health department under full-time personnel. Dr. J. J. Keegan presided.

Dr. Russell Best gave a paper on "The Management of Biliary Tract Disease" before the Cerro Gordo County Medical Society at Mason City, Iowa, on February 10.

PROGRAM OF ANNUAL ASSEMBLY

Tuesday Morning - May 5, 1942

Presiding—Clayton Andrews, M. D., Lincoln

9:30 "The value of the Salicylates as Compared with the Sulfa Drugs"
—S. A. Swenson, M. D., Rushville

10:00 "Postoperative Neurologic Complications"
—Henry W. Woltman, M. D., Rochester, Minnesota

10:30 "An Open Psychiatric Division in a General Hospital"
—Robert J. Stein, M. D., Lincoln

11:00 Presidential Address
—W. P. Wherry, M. D., Omaha

11:25 Installation of President-Elect
—D. D. King, M. D., York

11:35 Address—Program Committee
—J. E. M. Thomson, M. D., Lincoln

11:45 Necrology
—O. V. Calhoun, M. D., Lincoln

Alumni Luncheons

University of Nebraska
Creighton University

Tuesday Afternoon

Presiding—G. E. Peters, M. D., Randolph

2:00 "Surgical Relief of Pain"
—W. T. Peyton, M. D., Minneapolis, Minn.

CHEMOTHERAPY

2:30 "Pharmacologic and Toxic Effects of the Sulfonamides"
—Raymond J. Wyrens, M. D., Omaha

2:50 "Chemotherapy in Diseases of the Genito-Urinary Tract"
—W. H. Schmitz, M. D., Omaha

3:10 "Chemotherapy in Gynecology and Obstetrics"
—Harold S. Morgan, M. D., Lincoln

3:30 "Chemotherapy in Compound Fractures and Osteomyelitis"
—Herman F. Johnson, M. D., Omaha

3:50 "Chemotherapy in General Surgery"
—Frederick C. Hill, M. D., Omaha

4:10 "Chemotherapy in Diseases of the Upper Respiratory Tract and in Pneumonia"
—Lynn T. Hall, M. D., Omaha

4:30 Open Discussion

Dinner—Tuesday Evening
6:30 P. M.

Presiding—D. D. King, M. D., President

Immediately following dinner:
"Medical Licensure in Nebraska"
—Mr. J. W. Holloway, Chicago, Illinois, Acting Director Bureau of Legal Medicine and Legislation American Medical Association

Wednesday Morning - May 6, 1942

Presiding—C. H. Sheets, M. D., Cozad

9:30 "The Differential Diagnosis and Management of Coma"
a. Medical Aspects
—Edmond M. Walsh, M. D., Omaha

9:50 b. Neurologic Aspects
—Wilbur A. Muehlig, M. D., Omaha

10:30 "Treatment of Athletic Injuries"
—Marcus H. Hobart, M. D., Evanston, Ill.

11:00 "The present Day Tuberculosis Problem"
—Benjamin Goldberg, M. D., Chicago, Ill.

11:30 "Bedside Neurology for the General Practitioner"
—LeRoy H. Sloan, M. D., Chicago, Ill.

Luncheon—12:00 Noon

Presiding—W. P. Wherry, M. D., Omaha

Immediately following luncheon:
—Samuel J. Kopetzky, M. D., New York, New York, President, Medical Society State of New York; Colonel, United States Medical Corps.

Wednesday Afternoon

Presiding—Earle Johnson, M. D., Grand Island

2:00 "Prostatectomy with Minimal Hospitalization, without Preliminary Drainage"
—Edwin Davis, M. D., Omaha

2:30 "Emergency Treatment of Fractures—How to Handle Various Types of Fractures Before They are Reduced"
Rex L. Diveley, M. D., Kansas City, Mo.

3:00 "The War Role of Organized Medicine"
—Colonel Samuel J. Kopetzky, M. D., New York, New York

3:30 "The Significance of Glycosuria"
—Frank Conlin, M. D., Omaha

4:00 "Establishment of Respiration in the Newborn—Influence of Ether Anesthesia"
—W. C. C. Cole, M. D., Detroit, Michigan

4:30 "Perils of Colostomy"
—A. F. Jonas, Jr., M. D., Omaha

Banquet—Wednesday Evening
6:30 P. M.

Presiding—D. D. King, M. D., President

(Continued on next page)

WOMAN'S AUXILIARY

President—Mrs. M. C. Green
2412 No. 53rd Street, Omaha, Nebr.
President-elect—Mrs. C. Fred Ferciot
Lincoln, Nebr.
First Vice-President—Mrs. A. L. Miller
Lincoln, Nebr.
Second Vice-President—Mrs. Herbert Davis
Omaha, Nebr.
Treasurer—Mrs. Harry Flansburg
Lincoln, Nebr.
Publicity Chairman—Mrs. W. H. Morrison
513 No. 41st Ave., Omaha, Nebr.

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

PROGRAM OF ANNUAL SESSION

Monday, May 4th

Registration Headquarters at Hotel Fontenelle

Tuesday, May 5th

10:00 a. m.—Executive Session, Hotel Fontenelle; Mrs. M. C. Green, presiding.

12:30 p. m.—Informal Luncheon at Hotel Fontenelle. Tickets available at headquarters 85 cents.

3:00 p.m.—Tea; Mrs. L. D.. McGuire, 426 North 38th.
Pipe Organ Recital.

Wednesday, May 6th

9:00 a. m.—Annual Business Meeting at Hotel Fontenelle; Mrs. M. C. Green, presiding.

1:00 p. m.—Luncheon and Style Show, Courtesy of Herzberg's. Tickets available at headquarters $1.00. Early reservations appreciated.

7:00 p. m.—Banquet at Hotel Fontenelle. Nebraska State Medical Association.

Thursday, May 7th

9:30 a. m.—Executive Session, Hotel Fontenelle; President, presiding.

11:00 a. m.—Trip to Boys Town.
Dutch Treat Luncheon, Hotel Fontenelle.

A few more weeks, and the members of the Woman's Auxiliary to the American Medical Association will be arriving in Atlantic City, New Jersey, for their Annual Convention, June 8-12.

Have you made your reservations? If not, send your request at once to Haddon Hall, Atlantic City, New Jersey.

Following a joint dinner with the Adams County Medical Society at Ingleside March 4th the Medical Society Auxiliary had for their principal speaker, Harold Snyder, assistant postmaster, who spoke about finger printing processes used by the postal department.

Mrs. C. E. Abbott presided at the business meeting and Mrs. A. E. Kostal, chairman of the defense activities committee, reported that a number of the members had assisted in the recent house to house canvas made by the Chamber of Commerce.

The Cass County Medical Auxiliary met March 2 with Mrs. R. W. Tyson and Mrs. J. F. Brendel at Murray. Three nurses from the Cass-Sarpy Health Unit were guests, Mary Fortin, Mary Henderson and Helen Olson. The Medical Society and Auxiliary met for a joint dinner. Separate meetings of the two organizations followed the dinner.

Thursday Morning - May 7, 1942

Presiding—F. L. Rogers, M. D., Lincoln

9:30 "Should Most Gastric Ulcers Be Treated Surgically or Medically?"
—J. Dewey Bisgard, M. D., Omaha

10:00 "Function of the Procurement and Assignment Service"
—Roy W. Fouts, M. D., Omaha, Chairman Procurement and Assignment Service, Seventh Corps Area

10:30 "Encephalitis in Nebraska in the Summer of 1941"
—G. Alexander and Richard H. Young, M. D., Omaha

11:00 "Acute Surgical Infections of the Kidney"
—A. D. Munger, M. D., Lincoln

11:30 "Endocrine Problems in the Male"
—Willard O. Thompson, M. D., Chicago, Ill.

Luncheon—12:00 Noon

Presiding—G. L. Pinney, M. D., Hastings

Immediately following luncheon:
(Title to come)
—Willard O. Thompson, M. D., Chicago, Ill.
(Title to come)
—J. P. Greenhill, M. D., Chicago, Ill.

Thursday Afternoon

Presiding—G. F. Hoffmeister, M. D., Imperial

"COMPLICATIONS OF LABOR"

2:00 "Management of Labor in Contracted Pelvis"
—Ralph Luikart, M. D., Omaha

2:20 "Obstetric Shock"
—Earl C. Sage, M. D., and W. E. Brown, M. D., Omaha
2:40 Presentation of Oliver Wendell Holmes Trophy
2:50 "Hemorrhage"
—W. C. Kenner, M. D., Nebraska City
3:10 "Secondary Uterine Inertia"
—H. E. Harvey, M. D., Lincoln
3:30 "Soft Parts Dystocia"
—J. P. Greenhill, M. D., Chicago, Ill.
4:00 Open Discussion
Adjourn

MINUTES OF MIDWINTER SESSION OF THE COUNCIL OF NEBRASKA STATE MEDICAL ASSOCIATION

Continued from March Issue of The Journal

SECRETARY'S REPORT TO THE COUNCIL

The Nebraska State Medical Association during the year 1941 had 1,126 members with dues paid. This was a loss of 20 members from the total of 1940. These are probably accounted for in the number who left the state and by those who entered the armed forces but could not qualify under the rule adopted by the House of Delegates. Seventy members who entered the armed forces of the United States did qualify and are being carried as members in good standing.

The year as a whole has been an active and busy one, as will be shown by the various committee reports. Certain committees have been unusually busy, the Committee on Medical Economics especially. This committee, with the Executive Secretary and officers, were in charge of the load made necessary by the session of the legislature. At this session there were an unusual number of bills which concerned the medical profession, this including a cultist bill. The excellence with which this work was done is testified to by the fact that again there was no legislation unfavorable to the medical profession passed. In addition, this committee has spent a great amount of time working toward a revision of our state medical practice act.

The committee work in connection with the University Agricultural Extension Department has taken a large amount of time and much has been accomplished. In this Dr. E. W. Rowe, Dr. Dr. S. Wycoff and Executive Secretary Smith have carried the load.

The Program Committee as usual prepared an excellent program for the 1941 meeting. The meeting itself was of a high character and there were more commercial exhibits at this meeting than at any previous meeting. Also, the House of Delegates and the Council had their usual busy sessions with much business to transact.

Finally, with only a possible exception of one or two committees, all of the work assigned to them has been done in a creditable manner.

The finances of the association are also in a healthy condition, as will be shown by the Auditor's report. Some changes in our investments have occurred, as is explained in Exhibit C of the report.

Under Exhibit B will be shown that the total income was $18,711.79 and the total disbursements were $17,129.77, leaving a balance of $1,582.02. This is explained in detail in Exhibits B and C of the Audit report and will not be discussed in this part of the report.

The constitution requires that the Executive Secretary collect the dues of the association and other sources of income. It also requires that he carry on the bulk of the affairs of the association. Too, it requires that he turn over to the Secretary-Treasurer all money collected and that the Secretary-Treasurer draw all checks and pay all debts of the association. To do these things, it is necessary for both officers to keep themselves informed in the business of the association. An audit is required by expert accountants, and the audit covers the work of both of the above officers. This year the Executive Secretary has explained in detail the Auditor's report; therefore, it will not be necessary for the Secretary-Treasurer to repeat these details.

The affairs of the association are in good shape. Expenses have not quite equalled income. Not as much money was spent as was set up in the budget. This is a healthy situation.

There is one situation which should be carefully considered. The association carries the members in the armed services free of the dues of the association. This already has amounted to a sum of about $700.00. If as many more members enter the service as have at this time, it seems that this will probably cause a serious shortage in the income of the association and some means will have to be found to replace this amount or the association will have difficulty in keeping itself solvent.

Respectfully submitted,
R. B. ADAMS, Secretary-Treasurer.

REPORT OF BOARD OF TRUSTEES

Mr. President and Members of the Council of the Nebraska State Medical Association: The Board of Trustees of the Nebraska State Medical Association respectfully submits the following report of its activities relative to the business of the Association for the year 1941.

The Board organized itself and held its meetings as specified in the By-Laws. The officers elected for the year were Geo. W. Covey, Chairman, R. Russell Best, Vice-Chairman, and Roy Adams, Secretary.

In 1940 the House of Delegates, added an item entitled "Emergency Fund" to the budget for that year. This was done at the request of the Board of Trustees. It was intended that this item should appear in each budget thereafter as it does in the 1942 budget and in the proposed budget for 1943. Through an oversight this item was left out of the 1941 budget. Circumstances of an emergency nature arose during 1941. The Board of Trustees therefore added this item to the budget and requested the Council to recommend approval of this action by the House of Delegates.

The addition of this $1,000.00 item raised the budget to $13,325.00. The total expenditures for the year amounted to $11,688.24 leaving an unexpended balance in the budget of $1,636.76 as of December 31, 1941.

The investment known as the John O. Wentworth Real Estate Mortgage Bond for $2,500.00 could not be liquidated at face value and interest was not being paid regularly. Mr. Wentworth finally offered the choice of two settlements; that of transferring title to the land to the Nebraska State Medical Association or of paying us $1,500.00 in full settlement of the account. Your Board felt that the Association would do well to avoid ownership of real estate as an investment and that the alternative of accepting $1,500.00 cash in full settlement of the loan was preferable. The amount of interest paid on this loan over the years was approximately $1,000.00 which made our actual loss, practically, the interest on the investment. Consequently the $1,500.00 was accepted as full settlement of the loan. This reduced our investments by $2,500.00 and increased the general fund $1,500.00. The treasurer has been instructed to re-invest this money in Series G. Defense Bonds. These bonds pay interest semi-annually at 2.5%. They mature in twelve years, at which time the investor receives the same principal that was put in.

Other details of the Association's finances will be presented by the Secretary-Treasurer and will be available in printed form as the auditor's report for 1941.

In June the Board was informed that the State of Nebraska could no longer give financial help in maintaining the Speaker's Bureau of the Nebraska State Medical Association. The State had been paying the greater part of the expense of maintaining the office of the bureau in Omaha. In August Dr. J. D. McCarthy tendered his resignation as chairman of this bureau to become effective September, 1941, but stated that he would complete the work already in hand.

Inasmuch as your Association is unable, financially, to maintain an office outside the headquarter's office with its equipment and necessary clerical force, it was decided to move the files and all other equipment belonging to the Association to the office in Lincoln. In this way the detailed work of the bureau can be carried on with no added expense. There may be, of course, some loss in efficiency and coordination of this service because the new chairman of the Speaker's Bureau, Dr. C. W. McLaughlin, Omaha, loses direct contact with the files and clerical help and must carry on the work somewhat indirectly.

It has been the opinion of the Board of Trustees that the Speaker's Bureau has become a very valuable asset to the physicians throughout the State and that, with sufficient funds, its value could be greatly enhanced.

The Board has instructed me to suggest that an effort be made to work out some method of obtaining such financial support. One such method, for example, might be the collection from each member physician of a special assessment, perhaps $1.00 per year. The money thus made available would, of course, be used entirely for this specific purpose. If some such plan were worked out it might be possible in time to import speakers from time to time, who have special qualifications. It also would be easier to interest Nebraska's own speakers in leaving their work and traveling long distances if expense money were available. These are merely suggestions and much better plans may be found by study of the subject.

With these thoughts in mind the Board suggests the matter be placed before the House of Delegates for their consideration and such action as they may see fit to take.

The Board of Trustees asks that the Council recommend to the House of Delegates that the Board be granted permission to give to the University of Nebraska Medical Library at Omaha such books as have been on our lending list one year, or in case the University does not want them, to make such disposition of them as seems wise.

Your Board of Trustees submits the following budget for 1943 for your consideration and recommendation to the House of Delegates.

Salaries	$ 4,800.00
Travel	1,000.00
Office expense:	
Rent	625.00
Mimeograph	200.00
Printing	250.00
Postage	300.00
Telephone and telegraph	250.00
Miscellaneous	250.00
Councilor	300.00
Delegate to A. M. A.	250.00
Annual session	1,500.00
Committee expense	125.00
Audit	75.00
Student loan	100.00
Speakers' bureau	375.00
Dues, share to Journal	1,600.00
Medical—Legal	800.00
Emergency	1,000.00
Attorneys fees	1,000.00
Office equipment	200.00
	$15,000.00

This suggested budget for 1943 exceeds that adopted for 1942 by $375.00.

Increases were as follows:

Salaries	$ 400.00
Delegate to A. M. A.	100.00
Audit	75.00
	$ 575.00

Decreases were in the following items:

Postage	$ 50.00
Miscellaneous	100.00
Councilor's expense	50.00
	$ 200.00

Respectfully submitted,

GEO. W. COVEY, Chairman, Board
of Trustees, Nebraska State
Medical Association.

REPORT OF THE EXECUTIVE SECRETARY

The past year has been one of progressive activity for the headquarters office, and an altogether exceedingly satisfactory one from the point of view of developments for the Association as a whole. As usual, this report will cover only those activities of the headquarters office and its various departments. The reports of the various committee chairmen will cover the activities of their groups.

Financial Report

The financial situation shows a very satisfactory comparison with last year. The income from dues was less than the previous year, due to a slight drop in membership. While there were some new members during the year who had not belonged to the Association previously, a number of men who had joined the armed forces did not pay their dues for the year, many of them receiving a continuing membership as voted by the House of Delegates at the last meeting. This decrease in amount of dues collected amounted to $550.00. There was also a drop of $169.70 in the amount of interest collected, due to some of the bonds held having matured during the year. The funds thus released are now in the process of reinvestment. There was a loss in interest during this change in investments. The total income of the Association, however, was greater than for the previous year because of a settlement of one of the mortgage loans. This brought in cash of $1,500.00. There was a small increase in the income of the Journal for the year, and with the addition of $41.64 as net proceeds from the Annual Assembly, the total income for the Association as a whole amounted to $18,711.79 as compared with $17,798.03 for the previous year. The total expense for the general fund of the Association was $10,033.74 as compared with $10,038.61 for the previous year. It is of interest to note that there was a difference of only $4.87 in the expense of the general fund for the past two years.

Considerable saving was made in the operation of the Journal for the past year. The operating cost for 1941 was $7,096.03 as compared with $8,547.99 for the previous year, showing a saving in operating cost for 1941 of $1,451.96.

Excess of income over disbursements for the year amounted to $1,582.02, as compared with a loss of $838.57 for the previous year. However, it should be noted that the settlement of one of the investments brought in a sum of $1,500.00 which would indicate that the Association expenditures were just slightly less than the income. This is a satisfactory condition, since this is not a profit organization but is a money spending organization, and there would seem to be no justification in building a reserve greater than for one year's operation. During the year $16.00 was spent by the Association for every $10.00 received in dues. The year opened with cash on hand of $1,213.11 and closed with $2,795.13.

The Nebraska State Medical Journal

Even though the income of the Journal was reduced due to a loss in membership with the resultant loss in amount of dues credited for each member as subscription, the year ended with a slight increase in income for the year. The income for 1941 was $7,753.53 as compared with $7,701.73 for the previous year. The cost of operation of the Journal for the year was $7,096.30, showing a net operating profit of $657.30 for the year. Since the Journal is operated as a unit of the entire organization, the income and operating cost is a part of the entire budget and becomes a part of the general statement, any profit shown being merely a paper profit and not an entity.

The accounts receivable have been reduced during the year to $463.26, all of which are current and appear to be collectible at this time. This is, of course, an asset of the Association, but since the Journal is operated on a cash basis, these funds are not considered in the statement until they are collected and shown as cash.

Membership

We submit herewith the usual membership tables, which indicates that loss of physicians in Nebraska through death or removal to another state has decreased. During the past year the loss by death was 21 physicians and by removal 32 or a total of 53 as compared with 90 the previous year. There were 44 new physicians started practice in the state during the year, which makes a total loss of only 9 for the year. However, there are fewer physicians in the state due to the fact that we have 111 in the armed forces at the present time.

Table No. 1

1941 MEMBERSHIP RECORD:

Members Deceased	8	
Non-members Deceased (7 not licensed)	13	
Total Deceased		21
Members moved out of State	14	
Non-members moved out of State	18	32
Members in Military Service	70	
Non-members in Military Service	38	
Non-members in Military Service, not licensed	3	111
Total Loss		164
New Physicians in State		44
Net Loss		120
In Active Practice in State Jan. 1, 1942		1319
Retired, but eligible		28
Members—Dec. 31, 1940		1146
Members—Dec. 31, 1941		1126
Net Loss, 1941		20

Table No. 2 is a distribution under different classifications which account for the total registration of 1946 physicians in the state. This record shows that 70 members and 38 non-members are now in military service. Of the 38 non-members, 20 are licensed interns who have never been in practice in the state.

Table No. 2

REGISTERED NEBRASKA PHYSICIANS:

Members—In Active Practice	993
Members—In Military Service	70
Members—Honorary	12
Members—Residing out of State	21
Members—Deceased	6
Non-members—In Active Practice	257
Non-members—Not Eligible	57
Non-members—In Military Service	18
Non-members—In Military Service (interns)	20
Non-members—Residing out of State	432
Non-members—Internes	21
Non-members—Retired	28
Non-members—Deceased	6
Total	1,946

Table No. 3 shows the classification of members with a total membership of 1,126. This is a net loss in membership of 20, as compared with the previous year. It should be pointed out here that a number of the men in military service who are shown as non-members are men who were members of the Association before they entered the service. The House of Delegates at the last Annual Assembly voted to give continuing memberships to those who were in good standing when they entered the armed forces. This qualification made it impossible to issue these containing memberships to those who entered the service after March 1st and who had not paid their dues for 1941. It is also impossible to issue membership to them for 1942, since the same rule holds. The number shown as members in military service can be divided into two groups. A part of these men paid their 1941 dues, and another group was issued continuing memberships under the ruling of the House of Delegates. All of this group will receive free memberships for the present year, as will all of those who enter the service during the year and can qualify for this type of membership. It should be pointed out that during the present year there will be a large number of these continuing memberships issued, which will decrease the income from dues and will also have an appreciable effect on the number of active members in practice.

Table No. 3

TABLE SHOWING 1941 MEMBERS:

Active Practice		993
In Military Service		70
Licensed in Nebraska (residing out of State)		21
Deceased (includes 2 not licensed)		8
Honorary—Licensed	12	
Honorary—Not licensed	8	20
Residing in Nebraska—Not Licensed		9
Residing out of State—Not Licensed		5
Total		1,126

The Annual Assembly

The income of $1,475.00 from technical exhibits at the 1941 Annual Assembly was the largest in the history of the Association, and made it possible to add a small sum to the general fund to help defray other expenses. This compared with an income of $1,030.00 for 1940. This amount will again be increased for the coming Assembly in May of this year. The space layout is designed for a total income from this source of $2,010.00. The space diagrams have already been sent out and space contracted for in the amount of $1,905.00. Approximately one-half of this amount has already been paid, since we require one-half payment at time of confirmation of space. We have two spaces left, and we are confident that both of these will be sold before the opening of the session. This increase in income from technical exhibits makes it possible to put on an Annual Assembly of increased value to the members.

Malpractice Insurance

For some time there has been an effort made to secure a satisfactory malpractice insurance policy for the member physicians in the state. We have met many discouragements, finding that many of the good companies do not wish to write this type of insurance because of past experience in the state. However, we have been able to show a very satisfactory experience over a period of the past few years due to the unusually good work of the Medico-Legal Committee, and we have finally succeeded in getting one of the best companies in the United States interested in a policy of this kind for Nebraska. By grouping the buying power of the association members, we will be able to buy this kind of insurance during the first year at a rate of 5% less than the regular manual rate, which at the present time is $35.00 for general practitioners and $40.00 for surgeons. We have assurance from the company handling the risk that they want to work with us very closely, and if the members patronize this policy well during the first year and the experience is good, they will permit another reduction of 10 per cent. As the experience continues good, we may expect to eventually reach a basis under this plan that will make the rate lower and more equitable in proportion to the loss ratio. There are some companies in the state who are writing some types of policy at the present time at rates lower than this quoted at the present time, but there is no assurance that the rate will ever be less. If the members wish to lend cooperative aid to this plan which is substantial, it will mean that within a comparatively short time Nebraska malpractice insurance will be on the basis which we have the right to expect in the light of our present experience.

State Fair Exhibit

The Nebraska State Medical Association cooperated with the State Department of Health in presenting a public exhibit at the State Fair last fall. The State Fair Board donated 1,600 feet of floor space in the Merchandise Building as an experiment to learn the reaction of the public to this type of exhibit. The greater part of the exhibits for the space were furnished by the American Medical Association from their regular list of exhibits for lay groups. With the financial aid from the State Department of Health and the furnishing of personnel, a very attractive showing was made which was highly educational in character. Records show that approximately 90,000 people viewed the exhibit, many expressing their appreciation in an enthusiastic manner, indicating that the project was well worthwhile, and it is hoped that it may be continued in the future on an even larger scale.

Component Society Visitations

In addition to attendance at 36 official committee meetings pertaining to business of the Association, the Executive Secretary has visited and appeared on the program of 20 component societies. A part of these meetings have been District Society Meetings, and in these visitations it has been our pleasure to meet with members from almost all of the counties in the state. Many of these trips have been in company with other officers of the Association, and many times the Executive Secretary has appeared on programs with other speakers. We endeavor, insofar as possible, to keep the membership over the state informed as to various activities of the Association. In making these various trips it has been necessary to travel a total of 6,734 miles within the borders of the state.

In addition, the Executive Secretary has attended the National Conference on Medical Service, the Medical and Public Health Education Group, and the Annual Secretaries Conference in Chicago; attended the Mid-West Clinical Meeting in Omaha; one meeting of the Board of Directors of the Nebraska State Tuberculosis Association, and the A. M. A. meeting in Cleveland.

Correspondence

The correspondence records in the headquarters office show that a total of 4,408 pieces of mail have been received at the office during the past year. During the same period there have been 4,760 pieces of first class mail and 7,373 pieces of mimeographed mail, making a total of 12,133 pieces of outgoing mail, and a total of 16,541 pieces of mail which have been handled in the office during the year.

War Effort

The nation is at war and we may anticipate that during the coming year many demands will be made upon the headquarters office and upon individual members to do our part. Medicine has never failed when given a job to do. Just what part the Nebraska State Medical Association may be asked to play as an organization has not yet been clearly defined, but whatever that part may be, we are prepared for an all-out effort and ready to assume any activity for service. We shall endeavor at all times to keep our information up to date so that we may be of service to the members, and we hope that not only members but county societies will make it a habit of keeping in touch with the headquarters office for authentic information. No doubt there will be many times during the coming year that we will call on individuals for help in doing the job which must be done, and we have no doubt but that the call will always be answered promptly and cheerfully.

It is a privilege to once more exercise our annual prerogative of thanking the officers and members of the Nebraska State Medical Association for their excellent cooperation and fine friendship during the year. In retrospect, we feel that we can truthfully say that it was one of accomplishment for the association and we are looking forward to greater achievement during the coming year.

Respectfully submitted,

M. C. SMITH, Executive Secretary.

REPORT OF TUBERCULOSIS COMMITTEE

The Committee met August 31, 1941, and October 27, 1941. The following topics were discussed and considered at length.

1. Program and activities of the last 5 years involving State Planning Board; State Medical Association; State Tuberculosis Association; State Department of Health.

We recommend continued promotion of such cooperation.

2. Fundamental Factors in a Tuberculosis Program.
   a. Education
      1. Of the Profession
      2. Of the Public
   b. Case Finding

We recommend that it be considered the function of the Committee to place more emphasis on A, 1, (the profession). That the problem of case finding procedures be studied and correlated with State Department of Health Policy.

3. The place of Tuberculosis on Medical Programs of Various Societies in the State.

This is difficult to promote or accomplish because of lack of interest and lack of available men for presentation of such topics.

4. Guest Speaker on Tuberculosis for State Meetings, Spring of 1942.

This is uncertain at present but may be arranged.

5. Guest Speaker on Mid-West Clinical Society Program, Fall of 1942.

Preliminary plans have been made.

6. Question of Tuberculosis in Connection with Student Health Program, State University.

Present program in effect is not up to the standard of similar institutions. No action of any kind has as yet been taken.

7. Publication of Hand Book on Tuberculosis to be prepared by the Committee for distribution by the State Medical Association to its individual members.

If this can ultimately be prepared and printed at no expense to the State Medical Association does this Committee have approval and does it need expressed authority to proceed with such an undertaking?

Respectfully submitted,

JOHN F. ALLEN, Chairman.

TUBERCULOSIS ABSTRACTS

"We are all in it," said the President the day after bombs dropped on Pearl Harbor. "Every single man, woman and child is a partner in the most tremendous undertaking of our American history." The excerpts below, derived from three papers presented at the 37th annual meeting of the National Tuberculosis Association, indicate the important role played by the medical profession in the victory effort.

CIVILIAN HEALTH IN NATIONAL DEFENSE

The stem from which all manpower springs is the civilian population. The strength of the branch can be no stronger than that of the stem. How strong is the stem? The findings of the National Health Survey made in 1935-36 give us some measure.

It may be estimated that 70 million sick persons each year lose over one billion days from work or customary activities and that the cost of illness and premature death in this country amounts annually to about ten billion dollars. The decline in the total death rate has been accomplished largely by life-saving in infancy and childhood, thus allowing larger numbers to reach the age of maturity. Consequently, there is an upward trend in diseases of middle and old age, such as heart disease, nephritis, cancer and diabetes.

More than half of all tuberculosis deaths occur in the age group 15 to 45. This heavy loss comes approximately within the age limits for military service. And for every death there are approximately 10 clinical cases of illness from tuberculosis.

Disabling conditions among children, dental defects, venereal diseases, pneumonia, malaria and accidents are other leading causes of death and disability. The mental hospitals contain about half a million inmates with 50,000 on parole and about 75,000 patients are in institutions for the feebleminded and epileptic.

Studies of the economic status of families shows a direct correlation of sickness with low income. Disability due to illness was nearly two and one-half times as great among persons in the income group under $1,200 (annually) as in the group above $3,000. When it is recalled that the low income groups constitute a large proportion of those who are employed in industries more or less directly connected with national defense, the losses sustained as a result of unnecessary illness may be regarded in the light of domestic sabotage.—Civilian Health as a Factor in National Defense, K. E. Miller, M. D., Amer. Rev. of Tuber., Dec., 1941.

EXCLUDING TUBERCULOSIS FROM THE NAVY

Compactness of living spaces aboard a naval vessel is a necessity. Advances in ship construction from the standpoint of ventilation and sanitation in general have been made, but men living aboard are still somewhat crowded. Under such conditions an open case of tuberculosis is a real menace. Medical officers are on the alert, but the average sailor likes to think of himself as a rugged, hardy individual and will not, as a rule, report to the sick bay unless he really feels sick.

No applicant showing any degree of adult type tuberculosis is acceptable. Men in the service who develop tuberculosis are retired and are not subject to recall to active duty, even with long standing arrest and minimal lesions.

The medical department of the Navy has recognized that at least 30% to 40% of minimal cases will be missed by well-trained methods of physical examination alone. The criterion to be used in weeding out tuberculosis must be radiography. What form of radiography might be most practical for the Navy has been studied for some years. After carefully weighing the advantages and disadvantages of the several methods now available, fluorography with the 35 mm. film was found to be the best solution to the problem.

Speed is an important factor during a period of mobilization. A smooth working team can easily turn out from 100 to 150 films per hour. At present, examinations are not exceeding the rate of 80 per hour in the interest of careful posturing and some regard for the life of the x-ray tube.

However, these miniature films are not used for fine diagnostic work, but serve merely as a sieve to screen out the abnormal from the normal chest. In any case showing a lesion or even a questionable area, a standard 14x17-inch celluloid film is made for confirmation and accurate diagnosis. The method has definitely passed the experimental stage and it is ideal for mass thoracic survey work. At one training station photofluoroscopic examinations of 5,171 recruits were made. These men had already passed two stringent physical examinations. Yet, of these recruits, 15 men showing soft infiltration in the lungs and 3 with multiple calcification and fibrosis of a disqualifying extent were transferred to the hospital for further study and disposition.

The incidence of tuberculosis in the Navy during normal times is not high and has been steadily declining. — Pulmonary Tuberculosis, Its Exclusion from the Navy, Robert E. Duncan, M. D., Amer. Rev. of Tuber., Dec., 1941.

TUBERCULOSIS IN THE ARMY

The author's paper, presented May 8, 1941, was largely a criticism of certain faults in the program for detecting tuberculosis among inductees. By December, 1941, however, he was able to add to the summary the following:

"Since presenting this paper the Army Tuberculosis Survey has been improved. Practically all inductees are now being x-rayed prior to induction into the Army. Tuberculosis inductees are not enrolled. It is considered that the Army now has an excellent program of tuberculosis survey."

The mobilization survey of 1941-45 will be the greatest case-finding effort ever carried out in this country. Its purposes will be to: (1) Detect chest diseases which would render the individual incapacitated for active military service; (2) detect diseases which may be so aggravated by military service that the individual becomes incapacitated for military service; (3) detect, especially, pulmonary tuberculosis with subsequent isolation from contact with young non-infected individuals; (4) report all tuberculosis individuals to proper state health authorities.

The demobilization survey will consist of the routine general physical examination followed by an x-ray examination of the chest. Thus far, the x-ray examination has been made shortly after induction, and for this purpose the 14x17-inch film has been mostly used. At present and in the future the x-ray survey will be made chiefly by use of fluorograms, using the 4x5-inch films. Two films are made, one of which is sent to the War Department for permanent record. Upon demobilization, two additional fluorographic films will be made with like disposition of films.

The chief fault of this plan, namely, that the x-ray film of the chest is usually not made until after induction, has been corrected.

Another fault is that inductees may be discharged to their own care unless in need of hospitalization. Most medical officers will tend to err on the side of safety and many tuberculous inductees will be sent to Army hospitals who should have been discharged to their homes. When viewed from the standpoint of epidemiology, however, this may have the advantage of bringing a large number of cases under control and thus decreasing tuberculosis in the community.

Mobilization regulations allow the induction of an individual with reinfection tuberculosis when the process is minimal as to extent and arrested. This can be done when, in the opinion of the examiner, the lesion is not likely to become reactivated under the conditions of military service. This is a dangerous exception for many experts are able neither to estimate properly the true potentialities of a fibrous, tuberculosis process nor the "conditions of military service."

Through this contemplated survey, thousands of new cases will be detected. It is important to plan for their care. No official estimate as to the number that will be discovered has yet been made but the author hazards the guess that between 1941 and 1945, a grand total of 88,000 cases will be detected. —Tuberculosis in the Army, William C. Pollock, M. D., Amer. Review of Tuber., Dec., 1941.

DEATHS

Miller, Ernest Edwin, David City. Born in Illinois in 1869. Graduated from Creighton medical college in 1900. Practiced for several years in Surprise and located in David City in 1915. He was active in civic and social life of his community until the time of his death, February 24th. Death was due to coronary disease .

Kiefer, Dr. J. J., West Point. Born in Iowa in 1869. Graduated from St. Louis College of Physicians and Surgeons in 1900. Practiced in Genoa and Bancroft, locating in West Point in 1921. He was active in civic and political affairs of his community. He was member of the Lions Club and the Masonic lodge. Died on February 16th. Death was due to heart disease. He is survived by the widow and two sons.

Charlton, Dr. Charles P., Palmyra. Born in Geneva, Nebraska in 1887. Graduated from Chicago Medical College in 1913. Located in Palmyra in 1916. Served as first lieutenant in the World War. In June, 1918, he was sent to Philippine Islands where he was in charge of the laboratory and later became chief of the genito-urinary service. In September, 1918, he made survey of tuberculosis in the

Philippines, China and Serbia. Following a discharge from the army in 1919, Dr. Charlton returned to Palmyra and remained in practice there until the time of his death, February 18th. Death was due to heart disease.

Reed, Dr. F. P., Stockton, California. Retired. Formerly of Weeping Water. Born in Nebraska in 1870. Graduated from Kansas City Medical College in 1899. Practiced in Weeping Water until 1917 when he left for army duty in the first World War. Following his discharge from the army he located in California, where he died February 7, 1942.

MARRIAGES

Dr. Arthur Greene of Omaha, to Miss Deborah Brunn of Long Island, New York, in Panama City, where Dr. Greene is First Lieutenant in the medical corps of the United States army.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

A regular meeting of the **Lancaster County Medical Society** was held February 17, 1942, in the Sharp Building Auditorium with thirty-seven members present, President B. A. Finkle in the chair. Minutes of the last meeting were approved as read.

Dr. Clarence Emerson read the first paper "Pancreatic Cysts." He called upon Dr. H. Taylor to present his case which contained two gallons of fluid. Dr. H. B. Morton reviewed his case which was similar in type but presented a difficult diagnosis—a cavernous hemangioma of the base of the liver. Dr. Emerson discussed the origin of these cysts, very little of which is known, and gave a distinct classification.

"Vitamins in Dermatology," was given by Dr. L. J. Owen. He discussed most of the known skin diseases resulting from vitamin deficiencies.

Dr. A. D. Munger read a paper on "Importance of Urea Splitting Bacterial Infections in the Urine." He discussed the constituents of the urine, the pH., and last the infectious organisms found and their relation to the percentage found.

Meeting adjourned 10:00 p. m.

The regular monthly meeting of the **Adams County Medical Society** was held at the Hastings State Hospital on Wednesday, March 4, 1942, at 6:30 p. m. for dinner and the program. Twenty-four physicians were present. Minutes of the last meeting were read and approved.

The guest speaker of the evening was Dr. Nicholas Dietz, Ph. D. of Creighton Medical School, Omaha, Nebraska, who was introduced by Dr. E. C. Foote. His subject was "Biochemistry as an Aid to the Physician." Special discussion was given to diabetes mellitus and liver function tests. The most prominent point brought out was the fallacies of the common tests for sugars and methods of discovering them. Dr. Dietz demonstrated the various new reliable tests for glucose and pentose, acetone and albumin. Questions were asked by Drs. Harrington, Egen and Uridill. The doctor's talk was discussed by Dr. Kanner.

Mr. Ernest Lindgren of Hastings talked on the medical fee in old age assistance in Adams County. The motion was made that we accept the blank made out by Mr. Lindgren for recording fees. This was seconded by Dr. Egen. A Revision of the Adams County Fee Schedule was presented by the Committee consisting of Drs. Swanson, Kingsley, Harrington and Egen. The motion was made and seconded that we accept the new schedule.

Meeting adjourned at 10 p. m.

The **Cass County Medical Association** met on Monday evening March 2 at Murray with Dr. G. H. Gilmore and Dr. R. W. Tyson, as hosts.

There were 14 present at the meeting of the medical association to hear the various topics along professional lines offered by Dr. Kling, head of the defense area health unit at Bellevue, as well as a number of the visiting members of the profession.

Dr. R. Russell Best of Omaha, gave a talk on "Gallbladder."

Attending the meeting were Drs. L. S. Pucelik, R. P. Westover, A. Texsley, of Plattsmouth; R. R. Anderson, Nehawka; Herbert Worthman, Louisville; J. W. Brendel, Avoca; R. W. Tyson, G. H. Gilmore, Murray; Drs. Loder, Holmes, Petty, of Lincoln, and Dr. Gilligan, Nebraska City

The **Madison Six County Medical Society** meeting was held Tuesday February 17th, in Hotel Norfolk, with dinner at seven.

The program consisted of a round table on Heart Disease as follows:

"The Clinical Aspect," by Dr. Rodney W. Bliss, Omaha .

"The Pathology," by Dr. Chas. P. Baker, Omaha.

A case of "The Tetralogy of Fallot," was shown by Dr. Lucien Stark of Norfolk.

Sixth **Councilor District** met in Osceola, Monday, March 16, 1942. Dinner was at 6:30 p. m..

The scientific program was as follows:

"The Early Manifestations of Psychiatric Problems," Richard H. Young, M. D., Omaha.

"Topical Therapy in Dermatology," Olin J. Cameron, M. D., Omaha.

The regular meeting of the **Five-County Medical Society** was held at the Stratton Hotel on March 5. At this meeting, the Five-County Society sponsored the Fourth Councilor District meeting, which includes the Six-County Society. Dinner was served to about thirty members, their wives, and guests.

The visiting ladies were entertained by Mrs. James D. Bradley.

The only business that was transacted was the election of a councilor for the Fourth District. Dr. G. E. Peters of Randolph was unanimously elected to this office.

The scientific program was as follows:

"Supportive Treatment in Burns," Floyd J. Murray, M. D., Omaha.

"Skin Grafting in the Treatment of Burns," James D. Bradley, M. D., Pender.

The next meeting of the Five-County Medical Society will be held at Wayne, Nebraska, April 2, at which time the Wayne doctors will have charge of the program.

At the meeting of the Box Butte County Medical Society in January following the staff meeting at the hospital the following officers were elected for the county society for 1942:

President—Dr. E. I. Whitehead .

Vice President—Dr. C. N. Sorenson

Secretary-Treasurer—Dr. W. L. Howell, Hyannis.

Censor—Dr. G. J. Hand.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. W. J. Luxford, formerly of Walthill, has located in Decatur.

Dr. and Mrs. J. R. Arrasmith vacationed in New Orleans in February.

Dr. A. B. Fellers of Palisade was in Denver the latter part of February .

Dr. B. F. Williams of Salem, Oregon, visited Lincoln, his former home, recently.

The sympathy of the Journal goes to Dr. W. H. Slattery of Lincoln upon the death of his sister in March.

Dr. H. V. Crum, formerly of Valentine, has moved to Rosebud, South Dakota, where he is associated with the Indian Medical Service.

Dr. Alfred J. Brown of Omaha, attended the sessions of the Central Surgical Association in Chicago the latter part of February. Dr. Brown is a member of the board of directors of the Association.

Mason City, Nebraska needs a doctor. "While we have nothing against the doctors from our neighboring villages, we do need a doctor in this town to take care of the sick and afflicted. A good doctor is an asset to any town and we should all strive to see if we could not interest some doctor to come here." This from the Transcript, February 26th.

Doctors in the Armed Forces

Dr. H. V. Nuss of Sutton is a first lieutenant in the U. S. army.

Dr. G. L. Teply of Howells, is a captain serving with the 110th Medical Regiment .

Dr. G. W. Pugsley, Jr., of Bayard, is a captain in the army, serving somewhere overseas.

Drs. Allan Campbell, John Royal and Fred Ferciot, all of Lincoln, are naval officers stationed in Bremerton, Washington.

Dr. E. F. Leininger of McCook, has been appointed lieutenant-commander in the U. S. navy and assigned to U. S. naval hospital at San Diego, California.

BOOKS RECEIVED

Communicable Disease Nursing, by Theresa I. Lynch, R. N., Ed. D., Instructor in Education, New York University; formerly Supt. of Nurses and Director of Instruction, the Willard Parker Hospital, New York City. 678 pages, including index, with 156 Text Illustrations and 5 color plates. The C. V. Mosby Co., St. Louis, 1942. Price $3.75.

"A Primer on the Prevention of Deformity in Childhood," written by Richard B. Raney, M. D., Duke University, in collaboration with Alfred R. Shands, Jr., M. D., Medical Director, Alfred I. du Pont Institute, has just come from the press. This book is published by the National Society for Crippled Children. Price $1.00.

This small volume is written in simple language and clear style. Although produced under the stimulus and sponsorship of the "Crippled Child," the authors are well known for their professional achievement in the field of orthopedics. The illustrations are good, the copy well arranged. The book should find a place on the desk of every physician who deals with children.

Symptoms and Signs Indicating Early Nutritional Failure

"Early nutritional failure" — early deficiency states—is probably far more prevalent among the population of the United States than is generally recognized, the Subcommittee on Medical Nutrition, Division of Medical Sciences, National Research Council, says in a report published in The Journal of the American Medical Association for February 21.

In the report are lists of the symptoms and signs suggestive of early deficiency states in infants and children and in adolescents and adults. The Subcommittee warns that no symptoms or physical signs can be accepted as diagnostic of early nutritional failure. It says, however, that symptoms and signs "When verified by a competent physician and when other possible causes have been ruled out should be considered as significant indications."

Those symptoms in infants and children which parents or teachers might observe are as follows: Lack of appetite, failure to eat adequate breakfast, failure to gain steadily in weight, aversion to normal play, chronic diarrhea, inability to sit, pain on sitting and standing, poor sleeping habits, backwardness in school, repeated respiratory infection, abnormal intolerance of light and abnormal discharge of tears. The physical signs are bad posture and sores at angles of the mouth.

The symptoms in adolescents and in adults are as follows: Lack of appetite, lassitude and chronic fatigue, loss of weight, lack of mental application, loss of strength, history of sore mouth or tongue, chronic diarrhea, nervousness and irritability, burning or pricking of skin, abnormal intolerance of light, burning or itching of eyes, abnormal discharge of tears, muscle and joint pains, muscle cramps and sore bleeding gums. Sores at the corner of the mouth are the only physical signs listed in adolescents and adults which might be observed by laymen.

Pause at the familiar red cooler for ice-cold Coca-Cola. Its life, sparkle and delicious taste will give you the real meaning of *refreshment.*

Conquering of Gas Gangrene Is Indicated in Two Reports

Two reports indicating that gas gangrene, one of the deadly foes of the wounded, may be conquered, are contained in the current issue of War Medicine, published by the American Medical Association, Chicago, in cooperation with the Division of Medical Sciences of the National Research Council.

Sarah E. Stewart, Ph. D., Bethesda, Md., announces the development of a toxoid that has proved to be effective in immunizing guinea pigs against the most common of the three types of organisms generally involved in gas gangrene.

Sulfanilamide or one of its derivatives has been found to successfully control experimental gas gangrene in guinea pigs, G. B. Reed, Ph. D., and J. H. Orr, M. D., Kingston, Ont., report in another paper in the same issue of War Medicine.

"Active immunization of man against infection with bacteria of the gas gangrene group has been given little consideration," Dr. Stewart points out in the introduction to her report. "In view of the marked progress which has been made in immunization against diphtheria and tetanus by use of their respective toxoids, it seems reasonable to believe that success could be attained against gas gangrene."

Toxoid is the toxin or poisonous substance secreted by an organism, the toxicity of which has been destroyed but which is still capable of inciting the formation of antibodies.

Dr. Stewart says that "During the first World War, it was found that in the different phases of the conflict the incidence of gas gangrene varied greatly in the wounded. The highest figures were always observed at the time of active operation, chiefly at the beginning of the war, when the wounded were not collected with the usual rapidity and when treatment was necessarily delayed. Since the gas gangrene anaerobes grow rapidly, death may ensue within a few hours of injury. It is essential, therefore, if immunity to this type of infection is to be present following injury, that it be built up prior to the time of injury . . ."

Dr. Stewart developed a Cl. perfringens toxoid which was found when injected into guinea pigs to produce an immunity against many times the minimum lethal dose of a culture of this bacteria.

Drs. Reed and Orr explain that in their investigation of the efficacy of sulfanilamide or its derivatives in relationship to gas gangrene, "the primary objective in undertaking this work was not to find a cure for gas gangrene but to devise a simple method of retarding the development of this infection until such time as a wounded man could be subjected to the well recognized surgical or medical procedures.

"The results appear to demonstrate that sufanilamide and its derivatives, especially sulfathiazole, introduced early into infected wounds have a marked retarding effect . . ."

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Calculous Disease of the Urinary Tract

CARL F. RUSCHE, M. D.
Los Angeles, California

There are still several avenues of investigation pertaining to nephrolithiasis that have been inadequately explored. Diagnosis is sufficiently exact, but unfortunately there is no unanimity of opinion regarding surgical or medical management.

Within the past few years, considerable attention has been given to the prevention and solution of urinary stones. The factor of stasis has been sufficiently emphasized, and the role of infection has received its important recognition. In an effort to control infection, the sulfonamides have been given, but it is now known they occasionally produce calculi. Recently the alkalis taken for peptic ulcer have been suspected of forming stones, but the paucity of cases under observation to date has not confirmed this hypothesis(6).

Randall(8), in several publications, has made logical deductions from research concerning the relationship of the renal papilla to the origin of primary renal calculi. His studies point out the crystallization of urinary salts on diseased papillae, and his conclusions are supported by adequate histologic proof. This newer conception of the nidus has materially assisted in the explanation of stone formation in the absence of infection and stasis.

Disturbance in calcium metabolism as observed in patients with hyperparathyroidism was for a long time accepted clinically as a causative factor in kidney stone formation. The calcium plaque lesion has been reproduced in experimental animals that have received parathyroid extract. In 1934, Barney and Mintz(1) reported eleven cases of concomitant urinary lithiasis in eighteen cases of hyperparathyroidism; but by 1938, Griffin, Osterberg and Braasch(3) found that in only 0.2 per cent of the cases was hyperparathyroidism of etiologic significance. Wesson(11) states that the formerly considered frequent causal relationship has been disproved. Metabolic dyscrasias and diseases should be kept in mind where urinary lithiasis is found, for the two may co-exist.

In 1933, Higgins(4) confirmed the work of Osborne, Mendel and Ferry, who had recognized the high incidence of urinary stone formation in laboratory animals with hypovitaminosis A. Higgins, after experimenting on albino rats with this dietary deficiency, applied his observations clinically. After treating a series of patients with the acid-ash, high vitamin A diet, he reported a marked reduction (16.4 per cent to 4.7 per cent) in the incidence of recurrence of urinary calculi. More startling to the profession, however, was the assertion that on dietetic management twenty-two patients with kidney stones experienced complete recovery without surgical intervention. Shortly after these claims were published, Oppenheimer and Pollack(7), Ezickson and Feldman(2), and Randall, Eiman and Leberman(9) substantiated the relationship between vitamin A deficiency and the pathogenesis of kidney stone in experimental animals; but at the same time, as a result of clinical research, they contradicted Higgins' statements regarding the disappearance or reduction in size of renal calculi. Even in the presence of positive biphotometric tests, administration of high vitamin A concentrate did not alter the calculous condition. It is now fairly well established that the therapeutic dietary regimen (acid-ash or alkaline-ash) should be based on the pH of the urine and the chemical elements of the stone, as what tends to dissolve one type may incite development of the other.

From this controversy may come an exact solution of the calculus problem. These investigators have contributed invaluable research data that have been used in a practical clinical way. The emphasis placed on the prevention of formation and recurrence has remarkably benefited the urologic patient. Nevertheless, it still remains necessary to resort to surgical extirpation of kidney stones.

When a patient presents himself, a very careful physical examination should be made, complete history taken and all available laboratory methods employed. These include cystoscopic examination, chemical, microscopic and bacteriologic studies of the urine, serum and blood calcium and phosphorus determinations, intravenous pyelograms and the use of the many modern refinements of radiography. In the presence of renal colic, one must not be too anxious to make a diagnosis of an uncompleted renal calculus, even though a shadow does show up in the radiograph. I find that more cases of renal colic are produced by other genitourinary conditions than by stone. In spite of the fact that pain may subside under treatment, one should make use of diagnostic methods to determine whether symptoms are the result of allied conditions such as nephroptosis, uretero-pelvic pathology, kinked ureter, strictured ureter, an aberrant blood vessel, presence of tumor or pressure from outside the urinary tract.

In dealing with a patient with calculous disease, one must always keep in mind three outstanding points:

1. Presence of Foci of Infection: The great offenders are the teeth, tonsils, sinuses, chronic constipation, chronic prostatitis in the male and chronic pelvic inflammatory conditions in the female. These represent a high percentage of focal pathogenesis. Foci of infection may be responsible in two distinct ways, either by providing the source of infection in the urinary tract, or by so lowering the resistance of the body that the urinary system is rendered particularly susceptible to infection. Rosenow and Meisser(10), in their experimental work on dogs in 1921, demonstrated the specificity of streptococcus in the formation of nephrolithiasis.

2. Obstruction to Free Urinary Outflow: This obstruction may take place anywhere in the urinary tract. A small minor calyx, a major calyx or a group of calyces may be implicated. An obstruction at the uretero-pelvic juncture may eventually involve the pleves and all the calyces, as well as cause complete obstruction of the kidney substance. Any part of the ureter may be affected, particularly one of the points of normal narrowing. A vesical calculous may cover both ureteral orifices and cause back pressure; more often the stone will elicit bladder pain and symptoms of bladder neck obstruction. A urethral stone may produce a complete or partial obstruction, causing retention and back pressure to the whole urinary tract.

3. Presence of Localized Infection in the Urinary Tract: It is almost axiomatic that infection in the urinary tract cannot be cleared up as long as there is obstruction to free urinary outflow, or in the presence of a calculus. It is found that most types of urinary calculi produce a radiographic shadow. Those which show no shadow are the ones that give us concern and make the use of other procedures necessary to arrive at a diagnosis. The use of wax tipped catheter, ureteral bougie, contrast x-ray, and many other refined methods are sometimes required. Stereoscopic radiograms should always be taken to demonstrate the existence of a urinary calculus. A shadow may be in an entirely different plane, yet may be superimposed in such a manner that in a single flat plate it appears to be in some portion of the urinary tract. The so-called "silent calculus" must receive serious consideration, and many of these should be removed even though they are symtomless. They may cause difficulty later in life when the patient's condition will be less favorable to operative intervention. Routine postoperative, as well as preoperative, intravenous urograms should be taken, with special attention to the condition of the ureter.

The treatment of choice in renal calculi is their operative removal, provided the kidney is not damaged to such an extent that nephrectomy is justified. This applies, of course, to patients whose general condition is satisfactory and in whom the results of the various function tests do not contraindicate surgery. Where calculi are removed from an infected kidney, nephrostomy drainage should be established. Many cases of infection clear up under this treatment which would not do so by the closed method alone, and recurrence in infected cases is 50 per cent as compared with 16 per cent in aspetic⁽⁵⁾. In cases of bilateral renal calculi, the question of paramount importance is which kidney should be operated on first. It seems logical to me that the primary attack should be directed against the kidney which has the better function. During convalescence from this operation, the kidney—relieved of its foreign body and aspetically drained—will in most cases undergo a material increase in function. Prolonged drainage is not without hazard, and every supportive measure should be instituted to abolish infection and stasis as rapidly as possible. Many of these kidneys become practically normal postoperatively, and the patient then has a much better chance of surviving the second operation. Frequently the worse damaged kidney will require nephrectomy. If treatment as set forth is followed, not only will the mortality rate be lowered, but morbidity will be markedly decreased. Stones may also be successfully removed from single kidneys, using utmost regard for asepsis. Immediate chemical analysis of removed stones should be made, in order that suitable follow-up treatment may be determined.

Many ureteral calculi will pass by the use of various drugs which cause relaxation of the ureter, by instrumentation, or by a combination of these methods. Morphine's first effect is a spasm of the ureter, and thus it may cause a more severe renal colic. Instrumentation should be performed cautiously, aseptic technic rigorously guarded, and too much time should not elapse before operative interference is carried out. Damage may result from prolonged conservative treatment and from repeated ureteral instrumentation. Metal ureteral instruments should be used with extreme care, or condemned because of the possibility of accidents. In my opinion, it is always better to use the non metal type of ureteral instrument. Keeping the urine acid (pH 5.5), or producing artificial acidosis if urea-splitting organisms prevail, has been reported as an effective solvent. Direct application of acid per catheter to the same type of stone is a method growing in popularity. Alkalinizing the urine in the presence of cystine stones will dissolve them, and cystine stones are the most responsive to this type of treatment. A warning should be sounded against idiosyncrasy to drugs and organic pathology subjected to chemotherapeusis.

PROPHYLAXIS

Measures which further the prophylaxis of calculus formation and favor the possibility of "dissolving" the stone, provided focal and local infection are controlled, depend for their success upon:

1. Avoidance, as far as possible, of supersaturation of urine.
2. Good renal drainage.
3. Adequate supply of certain protein colloids.
4. Proper regulation of the pH of the urine.
5. Sufficient quantity of vitamin A, as well as other vitamin concentrates in the diet.
6. Control of metabolic disease or abnormal metabolism.

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Medical Care of the Premature Infants*

PART II

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STIMULATION

A. Irritation of the Afferent Nerves: Respirations should be stimulated gently for violent methods may traumatize the infant or aggravate existing birth injuries. To encourage deep breathing or crying, the skin may be rubbed, the soles of the feet thumped, or a small amount of ether dropped on the skin. This may be repeated from time to time as needed, but overstimulation should be avoided because it is fatiguing. This is particularly true of premature infants and weaklings. There is one mode of resuscitation which should never be used. It involves strong, even painful afferent stimulation. In such methods, now condemned, the apneic infant is plunged into cold water or it is slapped hard and kneaded. No squeezing, pulling, or stretching of the body or limbs can induce the slightest inflation of its lungs, although the method of swinging the apneic and atelectatic baby, or the safer method of moving the body feetward and then sharply headward, may jerk the lungs partially open. If any other form of handling induces breathing, that result is induced reflexly, not mechanically.

B. Chemical: Mention must be made of medicinal treatment of asphyxia neonatorum. Lobeline has been used with rather indifferent results. It is undoubtedly a definite respiratory stimulant, but it is also a cardiac depressant. Nevertheless, Litchfield and Beilly(16) believe that asphyxia neonatorum of the central type may be overcome frequently by injection of alpha-lobeline hydrochloride into the umbilical vein. The drug will lower the threshold of the respiratory center to carbon dioxide stimulation and may be, if used in this way, a valuable adjunct in the resuscitation of the newborn.

Carbon dioxide is considered to be the most powerful stimulant for the respiratory center(17) (18). The inhalation of a mixture of carbon dioxide and oxygen is sufficient for almost all cases of moderate asphyxia. A close-fitting mask is held tight over the face and a small rubber bag, attached to the mask and filled with a mixture of 5 to 10 per cent carbon dioxide in oxygen is squeezed 10 or 15 times a minute. Usually a small, but sufficient, part of the lungs is thus inflated; and under the influence of the inhaled gases the baby begins to breathe. The administration of the gas is then continued by allowing the baby to rebreathe into the bag; the respiration soon becomes well established.

MECHANICAL RESUSCITATION OF THE NEWBORN

Murphy has adapted the Drinker respirator to the treatment of the asphyxia of the newborn. The apparatus as employed today has little if any place in the initiation of respiration in the newborn. In some instances it has been of great value for the reviving of the new born infant which has once had normal respiratory action. However, its value is limited in the respiratory disturbances of the premature where the respirator cannot synchronize its motion to those of the premature infant.

Martinez(20) has employed the E. & J. Resuscitator. It is a positive and negative apparatus, and the pressure is exerted by the oxygen over the baby's face through a mask similar to that used in administering gas anesthesia. The apparatus is equipped with two tanks—one of oxygen and the other of a mixture of 90 per cent oxygen and 10 per cent carbon dioxide so that either can be used with ease. The resuscitator is almost fool-proof, as the positive and negative pressure ceases automatically when the child breaths of his own accord and it allows him to breathe the oxygen from the bag. If desired, the child may breathe the oxygen-carbon dioxide mixture through the inhalator attachment. Although Martinez has used the apparatus in more than 500 cases, observations by other investigators must be recorded before any definite evaluation of the resuscitator can be made.

Since there is nearly always some trauma to the premature fetus in passage through the birth canal and actual or potential intracranial hemorrhage is the rule, some method of controlling evident hemorrhage or aiming to prevent future or potential hemorrhage should be considered. Extensive experiments in use of whole blood intramuscularly has proven disappointing. It is now generally accepted practice since a soluble synthetic Vitamin K is available to use ½ cc. subcutaneously immediately after birth and another ½ cc. may be given 12 hours later. This may be repeated the next day. In larger prematures 1 cc. can be given at once and another 1 cc. the following day. Administration of Vitamin K to the mother early in labor cannot be depended on in all cases to produce the proper response in these prematures after delivery. It should be given to the infant as above stated.

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*Presented before the physicians and nurses attending the Nebraska Conference on Premature Infant Care, June 12th through 28th, 1941. From the Minneapolis General Hospital—Division of the Department of Pediatrics, University of Minnesota and the Division of Maternal and Child Health, Nebraska State Department of Health.

Upper respiratory infections with complications are another cause of death in premature babies. The nurse or mother in attendance must pay strict attention to even the slightest detail. Anyone with upper respiratory infections, however slight, should avoid all contact with the premature infant. Scrupulous care of the hands of nurses, doctors, or those attending the premature baby must be observed before handling the baby, and especially before feeding. The hands should be soaped several times, rinsed thoroughly between each soaping. The hands should not be washed and then the mask adjusted or the door opened. Masks must be changed frequently and should be worn over mouth and nose.

If the baby develops any evidence of respiratory infection or any skin lesion, isolate it at once.(1) Skin lesions, especially impetigo contagiosa, must be carefully examined and treated by the nurse or mother under the direction of the physician. Silver nitrate (15 per cent), gentian violet (5 per cent in alcohol), tincture of merthiolate (1:1000) and/or ammoniated mercury (2 per cent) have all been used with success. The physician should leave orders that any sudden spread of the lesions be reported at once.

Loss of body-weight during the first few days of life occurs so constantly in full-term infants that moderate losses must be considered physiological. This is also true of premature infants but their loss is relatively greater than that of the full-term infants and they regain their birth weight more slowly, frequently requiring three weeks or more. The loss in weight of premature babies should not average more than 7 to 8% of the birth weight.

Note that to the present time not one word about feeding has been presented. This only emphasizes the great need in early premature infant care for (a) immediate transferral from delivery table in a warmed premature jacket into the heated unit—cord clamped but not tied, (b) gentle manual procedures for resuscitation and cardiac stimulation, using the appropriate chemicals or gases when necessary (mechanical resuscitators not to be used).

In resuscitation proper instruction to nurse or attendant as to removal of mucus by a small rubber syringe as it appears necessary from appearance of greater or less cyanosis is the one most important life saving measure in the first 16 to 24 hours of life with exception of continuous oxygen administration. Thus at least the first 16 hours of life is a period of rest, free from either water or feeding. The feeding chart shows that sterile water is first given and the following outline as to weight is employed:

1. Prematures weighing 3.3 pounds (1500 grams) or less(6) (7) (21).

If the baby regurgitates and aspirates, little harm is done; certainly there is little danger of infection. Water is offered in the amount shown in Table III every 2 hours remainder of first day and every four hours thereafter. Increase the total by the amounts shown each day following using the schedule fitting to each of the 1, 2, 3, size prematures. On the seventh day the maximum amount of water is reached and thereafter water is decreased as shown because proportionately more of the total fluid intake is milk. After feedings are started the water is administered in alternate 2 hour periods between the 4 hour feeding schedule.

If breast milk is available, begin the second day (or even third or fourth day if resuscitation period is lengthy) by offering 5 cc. of boiled breast (human) milk with 2% Calcium Caseinate (Casec) every 4 hours, increasing by 1 cc. each feeding until an additional 5 cc. per feeding is offered each succeeding day until 1½ (45 cc.) ounces are offered. Any further increase or more rapid increase depends upon progress made; where breast milk is routinely available, this may be used without additional boiling. The addition of Calcium Caseinate to breast milk has been found to definitely reduce the number of cases in which frequent liquid stools have developed and has led to a most satisfactory and consistent daily gain in weight.

2. Prematures between 3.3 and 4.4 pounds (1500-2000 grams).

Again begin giving water at the end of the sixteenth-hour rest period, every 2 hours remainder of first day, every 4 hours thereafter increasing the amounts per feeding daily until the seventh day when as the chart shows water is decreased gradually until on the ninth day 20 cc. (2/3 ounce) is given 3 times and on the tenth day, 25 cc. (½ ounce) is given 2 times.

Food again is begun on the second day (or later in weak infants requiring longer rest period) giving 10 cc. (1/3 ounce) breast milk with 2% Calcium Caseinate or the skimmed milk olive oil mixture (olac) every 4 hours, increasing by 5 cc. per feeding each day or at the rate of 1 cc. increase for each feeding until on successive days he is receiving the next charted amount (10 cc., second day; 15 cc., third day, etc.). Any further increases or any more rapid increased amounts require an order by the physician.

3. Prematures weighing 4.4 pounds (2,000 grams) and more.

Begin by giving water at the end of the 16-hour rest period. Start with 15 cc. (½ ounce) of water every 2 hours for the remainder of the first day and thereafter every 4 hours. Increase daily by the amounts shown on the chart with 45 cc. (1½ ounces) is given by the sixth day, then decrease as shown until only 1 ounce is given twice daily the tenth day.

On the second day, offer ½ ounce (15 cc.) of boiled breast milk formula, or if necessary the supplemental feeding every four hours and increase by 5 cc. daily the first 5 days and 10 cc. daily thereafter until 2½ ounces (75 cc.) are offered. Following this, additional changes in the feeding depend upon the progress of the case and must be ordered by the physician. Reference to Table III will probably help to avoid any confusion which may arise in connection with the routine of feeding outlined above.

The infants weighing between 2,000 and 2,500 grams may frequently be able to nurse quite early at the breast. Weighing before and after nursing is of paramount importance to determine how much milk has been received. In all cases of prematurity an effort should be made to promote maternal lactation. If the infant is initially too weak to nurse, the breasts should be hand expressed or emptied with a breast pump at regular intervals.

The best test of satisfactory and adequate feeding is a steady gain in weight(21) The physician should be notified each morning as to whether the infant will take or needs an increase in feeding. Weigh once during the first 24 hours, then every day for three days and thereafter every third day or twice a week. If the baby has lost in weight, it must be weighed daily until it has again made a good gain in weight.

After the second day water is given every four hours 5 or 6 times a day; milk is given 2 hours after the water feeding every 4 hours, usually 6 times a day.

5 A. M.	Milk	6 A. M.	Milk
7 A. M.	Water	8 A. M.	Water
9 A. M.	Milk	10 A. M.	Milk
11 A. M.	Water	12 Noon	Water
1 P. M.	Milk	2 P. M.	Milk
3 P. M.	Water	4 P. M.	Water
5 P. M.	Milk	6 P. M.	Milk
7 P. M.	Water	8. P. M.	Water
9 P. M.	Milk	10 P. M.	Milk
11 P. M.	Water	12 P. M.	Water
1 A. M.	Milk	2 A. M.	Milk

This schedule shows five water feedings and 6 milk feedings daily. It has the advantage over 6 water feedings and 6 milk feedings in that it permits the premature to have a little rest period during the night.

From the second to the fourth day after birth it is often desirable to give 3 1/3 to 5 ounces (100 to 150 cc.) of Ringer's solution (physiological saline) or Hartmann's solution by hypodermoclysis, using the inner aspect of the leg just above the knee for the sight of the injection. This should be administered very slowly, preferably by con-

TABLE III

Routine Feeding for Premature Infants

MILK

6 Feedings Daily

	**1		2		3	
Day	cc.	oz.	cc.	oz.	cc.	oz.
1	--	---	--	---	--	---
2	5	1/6	10	1/3	15	1/2
3	10	1/3	15	1/2	20	2/3
4	15	1/2	20	2/3	25	5/6
5	20	2/3	25	5/6	30	1
6	25	5/6	30	1	40	1 1/3
7	30	1	35	1 1/6	50	1 2/3
8	35	1 1/6	40	1 1/3	60	2
9	40	1 1/3	50	1 2/3	70	2 1/3
10	45	1 1/2	60	2	75	2 1/2

11—Further increases depend on progress made.

WATER

5 Times Daily (except (3) on 9th day and (2) on 10th day)

	1		2		3	
Day	cc.	oz.	cc.	oz.	cc.	oz.
1	10	1/3	10	1/3	15	1/2
2	10	1/3	10	1/3	15	1/2
3	15	1/2	20	2/3	25	5/6
4	20	2/3	25	5/6	35	1 1/6
5	25	5/6	30	1	45	1 1/2
6	30	1	35	1 1/6	45	1 1/2
7	30	1	35	1 1/6	40	1 1/3
8	20	2/3	30	1	30	1
9	20	2/3	20	2/3	30	1 (3)
10	15	1/2	15	1/2	30	1 (2)

**1 Prematures 3.3 pounds (1,500 gms.) or less.
2 Prematures 3.3 pounds (1,500 to 2,000 gms.).
3 Prematures 4.4 pounds (2,000 gms.) and more.
(3) One ounce three times a day.
(2) One ounce twice daily.

tinuous drip. This is a good method for reaching the required fluid intake if the baby is losing rapidly in weight during the first few days of life. The only objection is that it may disturb the infant.

It has been repeatedly observed that premature infants who cannot take adequate feeding and who are not gaining satisfactorily in weight may be benefited by whole blood. When the procedure is performed 1/3 ounce (10 cc.) is given to small babies and up to 1 ounce (30 cc.) to the larger infants. The blood is injected deep subcutaneously into the back below the scapulae. This procedure will often put an end to a refractory period during which there has been little or no gain in weight.

Three methods of giving water and milk are commonly employed.*

1. Catheter or tube method is frequently used.

2. Medicine dropper (protected by rubber tip) is used occasionally. The Breck feeder may be tried but it has the disadvantage of allowing too rapid feeding.

3. Bottle feeding is used but conservation of the baby's strength then is to be considered.

Many babies weighing less than 4.4 pounds (2,000 grams) must be fed by catheter. If this is done, a Number 10 or 12 soft French catheter, for small and a Number 14 French catheter for larger prematures is employed, using individual tubes. Catheter may be marked with silver nitrate four inches from the tip. The sterile tube is carefully passed to, but not beyond the 4-inch mark. The baby may be supported in a semi-recumbent position, and after becoming quiet is slowly fed. When the procedure is completed, the tube is kinked and removed quickly. The infant is supported in the sitting position in the crib to allow for the expulsion of air. The baby is watched carefully at the time of feeding and for a while after the tube is removed to see if it is going to regurgitate. If regurgitation should occur, the head and shoulders are lowered at once and the baby is turned face downward. The regurgitated milk is wiped from the mouth and face and the baby is re-fed 15 to 20 minutes later. This nursing care is one of the most important factors in preventing otitis media and bronchopneumonia due to aspiration.

Babies weighing over 4.4 pounds (2,000 grams) may often be fed by medicine dropper. Patience and care on the part of the nurse are prerequisites to success. Drop by drop the fluid is placed on the dorsum of the tongue whence it trickles down, and is swallowed. Babies usually begin to nurse from the bottle when they approach 5 pounds (2,300 grams) in weight.

Milk or water should not accumulate in the pharynx. It should be ascertained that the baby is swallowing. The accumulation of milk or water in the pharynx will strangle the infant and aspiration is inevitable. This often results in aspiration pneumonia.

If regurgitation or vomiting occurs, no further increases in feeding are made. It may actually be necessary to decrease the volume of feeding and increase the number of feedings.

The physician should always leave an order to be notified immediately if diarrhea (frequent, watery stools) makes its appearance. This condition requires an increase in the fluid intake and Hartmann's solution is given by hypodermoclysis. Weak tea or one-half strength Hartmann's solution may be employed in place of all feedings for 12 to 24 hours, after which feeding is again started by using small amounts of the breast milk—calcium caseinate (casec) preparation, or the skimmed milk-olive oil formula (olac), in gradually increasing volume.

If there is no improvement, whole blood is given deep subcutaneously on the second day. Do not temporize. Repeat Hartmann's solution by slow, continuous infusion, giving about 3 1/3 ounces (100 cc.) to small prematures and as much as 6 ounces (200 cc.) to the larger infants.

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*Nursing Care of the Premature Infant, Gertrude Carlsrud, R. N., Nurse Instructor in Premature Infant Care, Division of Child Hygiene, Minnesota Department of Health, Minneapolis. Mimeographed copies available from the Division of Maternal and Child Health, Nebraska State Department of Health.

If the baby is not gaining in weight and the stools continue to be loose, weigh daily until there is a weight increase, and normal stools.

After 10 days or as late as 14 days, premature infants who reach between 3.3 and 4.4 pounds (1,500 and 2,000 grams) should receive 5-10 drops of oleum percomorphum, 50% or of viosterol in halibut liver oil twice daily or White's cod liver oil concentrate, 2-4 drops twice a day. This is increased to 10 drops twice a day. Pure strained orange juice (one teaspoonful) is also given twice a day.

Premature infants of 4.4 pounds (2,000 grams) or more in weight, receive oleum percomorphum, 50% or a standardized concentrated cod liver oil. If the former is used, the amounts given are as indicated in the paragraph above.

If vomiting or diarrhea occurs, stop antirachitic and antiscorbutic preparations immediately for the time being.

Premature babies tend to develop a low hemoglobin very readily. A hemoglobin determination should be made no later than the fifth week of life, and if low, should be repeated weekly. Some form of iron should be used, beginning at the latest by the fifth week of life.

Liver extract and/or ferric ammonium citrate with or without copper sulphate have given a satisfactory response. The infant may receive each day 1 cc. of a 10 per cent solution of ferri et ammonii citras for each pound or 2 cc. for each kilogram of body weight, and ½ cc. of 0.5% solution of cupri sulphas per pound or 1 cc. of 0.5% solution per kilogram of body weight. Both preparations are placed in the breast milk or in the feeding formula. The copper may be discontinued after a short period of administration. It may be given again later.

Before discharge the premature should be carefully examined and should be free from respiratory infections and skin lesions. The physician may desire a final hemoglobin for the records and may possibly order x-rays of the long bones, and of the bones of the hand in order to be sure that there is no bony evidence of syphilis.

The infant should be able to nurse from the mother's breast or to take expressed breast milk or the artificial feeding formulae, easily from the bottle. The mother can be asked to come in a few days before discharge in order to determine how well the infant nurses at the breast. If an artificial feeding is ordered, it must be remembered that as the amount of milk per feeding increases it may be necessary to order more feedings rather than to continue to increase the amount of milk at each feeding, as stomach capacity may be limited. This can be done by substituting milk for some of the water feedings given during the day. As a result, in some instances the infant will be fed every three hours. A little water should then be given between feedings.

Directions must be given the mother for the administration of standardized cod liver oil or any especially potent antirachitic and orange juice. If oleum percomorphum is available, it is to be preferred to cod liver oil, because of smaller dosage.

Cardinal points in the management and feeding of the premature infant in the order of their importance are:

1. Intelligent nursing care on the part of the nurse or mother.

2. Maintenance of proper environment from the moment of birth.

3. Prevention of upper respiratory infections and skin disorders.

4. Establishment and maintenance of adequate fluid intake and feeding.

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BENEFITS FROM NECROPSIES

Among thoughtful, intelligent people the necessity for advancing medical science through autopsies will ultimately prevail over superstition and inhibition, R. M. Cunningham, Jr., Chicago, declares in the April issue of Hygeia, The Health Magazine. "In less enlightened communities," he continues, "no amount of persuasion will always overcome the stubborn reluctance which arises from a feeling that there is something gruesome about the idea.

"That autopsies are really important in medical education and research is demonstrated in the means which have been developed to combat the reluctance of such fear-ridden families. Many hospitals have prepared brochures to assist staff members in approaching the bereaved family, including specific instruction on what to say and when to say it, and how to answer each objection that may be raised . . . Hospital authorities consider the 'autopsy ratio,' or percentage of hospital deaths followed by autopsy, one significant index to the quality of an institution's professional work. An alert progressive medical staff, it is felt, should be eager to check the accuracy of its diagnoses and the effectiveness of its management of disease through postmortem examinations. Proper emphasis on the education of younger staff members, resident physicians and interns is possible only when autopsies are performed frequently to complete the pattern of history, symptoms, diagnosis, treatment and outcome. Without actual observation of the effects of disease, the practice of medicine could never have become much more than guesswork; examinations of the body after death provide the opportunity for the most important of these observations.

"An autopsy ratio of 70 per cent or higher generally indicates excellent staff performance, and, in fact, the Council on Medical Education and Hospitals of the American Medical Association recognizes this by giving institutions achieving this ratio honor standing in its annual publication of autopsy ranking, an event which is anticipated by hospital people throughout the country with much the same eagerness that college students await the announcement of commencement honors. Forty of the seven hundred and twenty-five hospitals approved for intern training by the Council reached an honor ranking last year. It is likely that all deaths in all these hospitals were attended by an organized effort to obtain consent to perform an autopsy; such a high percentage of failures is uncommon enough in projects undertaken by doctors to indicate the deep-seated nature of the prejudice against autopsies . . ."

Few people, Mr. Cunningham maintains, would consider an autopsy gruesome, disrespectful or mutilating to the dead if they had a true idea of what the procedure involved. Most people, he claims, fear autopsies because they know nothing about them, and efforts to obtain consent by emphasizing what the autopspy is for and winking at any discussion of the procedure itself are likely to be less successful than emphasis on what it is like—a true description of what is done. The scene at an autopsy is similar to that of an operating room during surgery. While more extensive than the marks which remain after most operations, the autopsy scars are no more disfiguring.

"Essentially," the author says, "there can be nothing objectionable in the fact that the pathologist raises the intestine or the liver or the stomach in his hands, any more than there can be objection to the fact that the surgeon may lift the foot to examine a sprain or fracture. The two actions may be separated only by a degree of familiarity; if one is gruesome, so is the other. That any one who would approve the removal of the gall-bladder in an operation to prevent death or suffering should find anything gruesome in the removal of the gall-bladder for examination after death seems also to be absurd in the extreme . . .

"Ultimately, all objections to the autopsy boil down to fear, and this fear boils down to ignorance of the nature and extent of the procedure itself. When it is known that the autopsy will include a minute examination of the principal organs and parts and that the body will be altered in appearance only by scars . . . the grip of fear must necessarily be relaxed. Distaste, of course, may always remain, but distaste is not so hard to deal with as fear . . ."

Obstetric Shock*

A Twenty Minute Discussion by

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DEFINITION

The term "shock" should be used in a generic sense to include a clinical syndrome which is familiar to all. The most striking features of the fully developed condition are apathy, sweating, cold extremities, thirst, a weak pulse, and vomiting. This clinical picture is dependent on an inadequate blood supply to the tissues of the body. In shock the impairment of the circulation results in a stasis of blood in the capillaries, transudation of plasma and protein into the tissue spaces, deficient oxygenation of tissues and a diminution in blood volume. Probably one of the most comprehensive definitions of shock is that given by Virgil H. Moon(2): "shock is a circulatory deficiency neither cardiac nor vasomotor in origin, characterized by decreased blood volume, decreased cardiac output (reduced volume flow) and by increased concentration of the blood."

This subject has provided a veritable storehouse of controversy, but we must all agree that the outstanding features of shock are decreased blood volume, hemoconcentration and a diminution of circulatory fluid constriction of arterioles and dilatation of the capillaries. The blood vessels contain less than the normal quantity of blood, and the amount returning to the heart is much reduced. But when one has the responsibility of the patient in shock one is reminded of John Collins Warren's description, that "shock is a momentary pause in the act of death."

INCIDENCE

The percentage incidence of fatal degrees of shock in obstetrics is not large in comparison with the total incidence of the condition. (Table 1) Rucker(4) estimates that obstetric shock without obvious cause may occur in 0.2 per cent of labors and abortions. Bailey(5) in 1911 first called attention to shock occurring soon after delivery in eclampsia and pre-eclampsia. He reported six cases with one death. Schwarz(6) in 1923 recorded thirteen cases of post delivery shock among 68 cases of toxemia, a high incidence of 19 per cent. In this series there were five deaths, a mortality of 38.5 per cent. Adair, Hunt & Arnell in 1936 reported 16 cases where there were profound clinical manifestations of shock and vascular collapse out of a total of 1018 cases of toxemia of pregnancy, an incidence of 1.5 per cent. At the University of Nebraska during the last two years there have been 1,055 deliveries. Among these were cases of shock of all types. The majority of these were mild and responded to supportive measures and parenteral fluids. A few of them required transfusions. There were no deaths in this series. This is an incidence of 4.2%.

SHOCK ASSOCIATED WITH CERTAIN OBSTETRIC CONDITIONS

Obstetric shock is most often associated with cases of abruptio placenta, placenta previa, acute inversion of the uterus, manual removal of the placenta, rupture of the uterus, and in another group of cases to be reviewed at the end of this paper. Prolonged labors with associated dehydration and acidosis predispose to obstetric shock. In fact, all analgesics which slow labor and tend to increase the frequency of operative deliveries are factors which deserve consideration. Post anesthetic collapse must be always borne in mind. The advice of De Lee is good: "When a woman collapses after delivery the attendant should rapidly review the course of labor for signs of any of the following conditions: postpartum hemorrhage, rupture of the uterus, inversion of the uterus, intraperitoneal hemorrhage, excessive operative traumatism. Next, uremia and toxemia must be considered, then heart and lung diseases. True shock can be diagnosed only by exclusion."

CLINICAL SIGNS OF SHOCK

Sheehan(9) states that one of the most striking signs in nearly all cases of obstetric shock is the great rapidity of the pulse rate and its uneven force. Hemoconcentration appears early, is regularly present and is detectable by simple means, namely, repeated blood cell counts. This finding, an increasing red cell count, is one of the outstanding features which differentiates shock from hemorrhage. As the blood volume decreases there is a drop in blood pressure which may go to alarmingly low levels. This is then followed by shallow respiration, an ashen grey appearance, and drowsiness.

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*Reprint sponsored by Bureau of Maternal and Child Health, Nebraska State Department of Health.

In general one should view with alarm a pulse over 120 and a blood pressure of 90/70 or below, or a drop of more than 50 mm. of Hg from a previous hypertension.

The signs of shock and hemorrhage are quite similar but the treatment in certain regards is different.

DIFFICULTY IN DIFFERENTIATING SHOCK PROPER FROM HEMORRHAGE

The separation of shock due to hemorrhage from other types is often quite difficult. (Table II) In general, shock comes on later when due to hemorrhage, and may be more abrupt in its appearance. Thirst and air hunger are more prominent features in hemorrhage. The patient suffering from hemorrhage is usually apprehensive (unless under anaesthetic) while the shocked patient is drowsy and disinterested in her surroundings. Respirations are usually rapid and deep in hemorrhage while shock produces a shallow, often irregular, sighing type of respiration. The pulse in hemorrhage while rapid is usually regular and remains of good quality until late. In shock the pulse is very rapid and uneven in force, and as the shock deepens becomes almost imperceptible.

It is possible to differentiate pure shock from that due to hemorrhage. In hemorrhage there is, at first, concentration, then dilution of the blood, fluids being absorbed from the tissues, in pure shock we find hemoconcentration determinable by the red count and hemotocrit. De Lee$^{(10)}$ thinks there is little difference in the treatment of these two aconditions; for pure shock he advises morphine, heat, glucose, salines and plasma; in shock from hemorrhage, give blood, glucose, salines, heat and morphine.

TREATMENT OF DIFFERENT TYPES OF SHOCK

In general one can divide shock clinically into two major types, primary and secondary or delayed shock. Primary shock is abrupt in onset and resembles syncope or fainting. There is less alteration in the biochemistry of the organism and it usually responds quickly to quiet and some of the cerebral stimulants such as caffein, and to infusion of normal saline. Primary shock may merge into secondary shock and the patient may be apparently improving only to lapse into deep shock several hours later when the attendant and relatives believe the patient resting quietly.

The major changes seen in shock which have a bearing on treatment are seen in Fig. 1.

The time to begin treatment is when the patient begins to show signs of circulatory collapse. A patient should not be allowed to remain with a systolic pressure of 90 without something being done about it. The treatment follows two general lines—supportive and replacement. The patient must be kept quiet, warm and comfortable. Sedatives are contraindicated except in the presence of pain. Stimulants such as digitalis, coramine, adrenalin, pituitrin, etc., are of no value and perhaps dangerous. In severe shock they are apt to precipitate further shock.

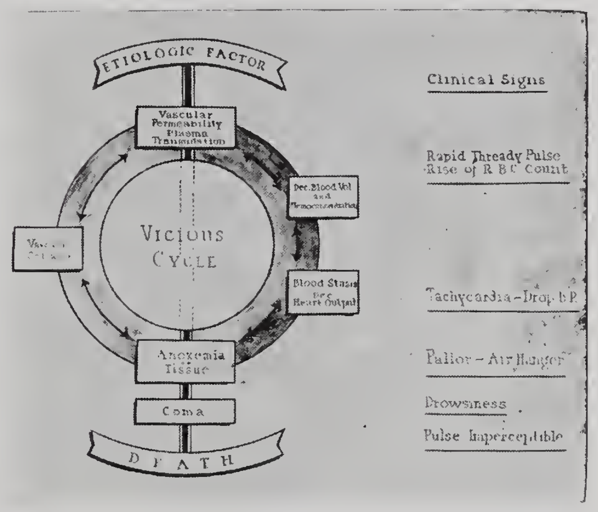

FIGURE I

The specific treatment of shock requires a break in the vicious cycle (Fig. 1) that has been set up. One of the important factors is the decreased blood volume. The simple restoration of fluid is insufficient because of the increased permeability of capillaries which permits the fluid to escape. To overcome this factor oxygen, and hypertonic or colloidal fluids must be used. The treatment then requires oxygen to prevent tissue anoxia and the replacement of fluids.

In Table III are listed the fluids which have been recommended, what they can accomplish, the duration of their effect and under what circumstances they are particularly indicated. The important problem is to put into the circulation a fluid which will remain in the circulation and which will break the vicious cycle which is prolonging the state of shock. Obviously, if shock is a result of hemorrhage mere plasma will not be sufficient. In such cases plasma may be of great benefit until whole blood can be given. More hospitals should have blood and plasma banks available, a plasma bank is practical for even the smallest hospital, while a blood bank is not. In using plasma, no typing or cross matching is necessary, and plasma may be given repeatedly in large amounts without fear of untoward reactions.

TABLE I

Author	Type of Report	Series	Incidence	Mortality
Rucker	General	----	0.2%	----
Bailey	Toxemia	6	----	20%
Schwary	Toxemia	68	19%	38%
Adair	Toxemia	1018	1.5%	----
Nebraska	General	1055	4.2%	0%

TABLE II

Clinical Differentiation of Hemorrhage and Shock

	Hemorrhage	Shock
Onset	Late—abrupt	Early—insidious
R. B. Count	Normal, followed by drop	Increased (Hemoconcentration)
Reaction	Alert, apprehensive	Drowsy
Pulse	Full, bounding, regular	Small caliber—uneven
B. P.	Normal until late	Gradual drop
Respirations	Rapid and deep	Shallow, sighing, irregular
Thirst	Present	Absent
G. I. Tract	No change	Nausea and vomiting

	Availability	Duration of Effect	Effect on Bl. Vol.	Oxygen Carrying Capacity	Prevention of Pul. Edema	Aids in Cardiac Activity	Electrolytic Balance	Reactions
Blood whole	+ —	24 hr.	++	++++	?	++	++++	++
Plasma	+++	24 hr.	+++	+	+++	++	+++	+ —
Serum	++	24 hr.	+++	—	++	++	++	+++
Acacia in saline	++++	18 hr.	+++	—	+	++	++++	++
Sucrose 50	+++	½ hr.	+++→+	—	+++	+	—	++
Glucose 50	++++	¼ hr.	+++→+	—	+++	+	—	—
Glucose in saline 15-25	++++	Only while admin.	++	—	++	++	++++	—
Saline or Ringers	++++	—	—	—	—	—	++++	—
Pectin (Experimental)	++++	36 hr.	+++	—	++	++	(in saline ++++)	+ ?

TABLE III

When hemorrhage is not a factor, whole blood is not the ideal agent. The two drawbacks to the use of whole blood are first, the time interval required for the transfusion, and second, the undesirable addition of red cells to an already concentrated blood. Most substitutes for blood transfusions in the treatment of secondary shock have so far generally failed.

TABLE IV

Treatment of Shock

1. Supportive measures
   (a) Elevate foot of bed
   (b) Judicious use of sedatives
   (c) Heat to body
   (d) Rest
2. Restore blood volume
   (a) Plasma or blood (in hemorrhage)
   (b) Hypertonic electrolytes
   25-50% glucose or lucrose
   (c) Colloids—acacia 6%
3. Prevent or correct anoxia
   (a) Oxygen—preferably by mask

Saline solution will restore blood volume for a short period of time if the plasma loss has not been serious. Dextrose solution likewise passes quickly through normal capillaries; hypertonic solutions simply increase dehydration. The intravenous administration of 6 per cent solution of acacia in normal saline has been used successfully by Randall and Hunt(11). Containers of this solution may be purchased commercially and taken to the home where blood donors and blood banks are not available. More than 6,000 intravenous injections of saline solution of acacia have been given to patients at the Mayo Clinic without untoward results. Deaths following the injection of acacia solution have been reported in the literature.

Matthews(12) has injected 50 to 200 cc's. of a 50 per cent dextrose solution and has found that this solution will raise the blood pressure from 20 to 50 mm. of mercury within a period of five to ten minutes. This rise is maintained from 20 to 45 minutes and in the meantime preparations are made for blood transfusions.

SUMMARY OF TREATMENT

In summary we should be prepared to treat hemorrhage and shock before, during, and after every labor we attend. Certainly the best method of treatment of shock is its prevention, or at least early recognition (Table IV).

The first steps to be taken in the treatment of shock are supportive and may, because of their simplicity be overlooked; they are never-the-less important.

(a) The conservation and restoration of body heat becomes especially important if the room is not sufficiently heated, about 90° Fahrenheit, warm blankets and hot water bottles help.

(b) The use of the Trendelenburg position is valuable in increasing the circulation to, and therefore the oxygenation of the vital centers in the brain. This is obtained by lowering the head or elevating the foot of the bed.

(c) The patient should be at complete rest and disturbed as little as possible to carry out the specific procedures. The judicious use of sedatives will help insure rest by all allaying apprehension, relieving pain, and preventing restlessness.

Of second importance in the treatment of shock is the restoration of blood volume and the prevention of further fluid loss from the peripheral vessels.

(a) Plasma appears the ideal material for the reestablishment of proper circulation in shock. Because of the protein content and the high colloidal osmetic pressure, plasma does not leave the circulation as crystalloid solutions do. The serum proteins in plasma exert a more prolonged osmotic effect to pull and hold fluids in circulation.

(b) Where hemorrhage is primarily responsible for the distressing shock picture, blood transfusions are preferred. Whole blood is the ideal therapeutic agent for increasing blood volume and blood pressure. The initial difficulty is to differentiate the circulatory collapse due to shock proper from that due to hemorrhage, since both conditions are frequently coexistant in obstetric patients.

(c) As an emergency measure, when neither plasma nor blood are immediately available the intravenous use of 6 per cent acacia solution in saline may be used successfully or hypertonic dextrose 25-50%.

The third major consideration is the oxygenation of tissue. Improvement in this regard results indirectly from improvement in circulation. Oxygen, preferably by mask, is very useful and serves to prevent circulatory collapse and capillary permeability.

Before concluding a discussion of therapy of shock a few don'ts might be listed, for such recommendations have been based on a misconception of the basic pathology of shock. The perpetration of these errors is the result of "jumping to conclusions" and the uncritical continuation of archaic medical practices. They are:

1. Don't use vaso-constricting drugs such as adrenalin, ephedrine, pituitrin, etc.
2. Don't use cardiac stimulants as digitalis, coramine, etc.
3. Don't use cerebral stimulants as caffeine—benzedrene, coramine, etc.
4. But above all DON'T PROCRASTINATE.

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Renal Tumors

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The diagnosis of any disease process depends on a clear understanding of the symptoms, signs and laboratory findings of that disorder. We have been impressed by the fact that renal tumors are often far advanced when the diagnosis is made. The difficulty in making the diagnosis is further emphasized by the high mortality rate, and that metastatic lesions are often the first sign of the renal tumor. Realizing that the clinical picture is often obscure, we have reviewed the cases seen in the University Hospital to July, 1939, to discover whether there are any features that might aid in early diagnosis.

There were 23 cases ranging in age from 26 years to 76 years, averaging 49 years. They were all white with the exception of one, a negro. Fifteen were males and 8 were females. The initial symptom was hematuria (9 cases), pain (4 cases), abdominal mass and hematuria (3 cases), pain and hematuria (3 cases), hematuria, pain and mass (2 cases) and pain, hematuria and loss of weight (2 cases). The duration of the renal tumor as obtained from the history was less than 1 month in 2 cases, 1 month to 1 year in 7 cases. 1 year to 2 years in 6 cases, 2 years to 5 years in 2 cases, 5 years to 10 years in 4 cases, and over 10 years in 2 cases. Symptoms in 2 cases were less than 1 month and in 2 cases were over 10 years in duration (14 and 25 years). The laboratory work done at the hospital showed 13 cases with albuminuria, 9 with hematuria, and 8 with anemia. Thirteen had blood pressures ranging from 200 to 250 systolic, and 7 from 150 to 200 systolic. The diastolic pressure in 14 cases ranged from 70 to 90 and in 6 cases from 90 to 110 mm. of Hg. Pressures were not recorded in 3 cases. The x-ray studies revealed the following: The right kidney was involved in 12 cases and the left in 11 cases; 14 cases showed enlargement of the kidney; 8 showed distorted calyx; 1 showed displaced kidney; 13 showed distorted pelvis; 2 showed dilated ureter; 8 showed angulated ureter. Of metastasis 6 were to lungs, 1 to ribs, and 1 was widespread. Of the operated cases 11 were adenocarcinoma. One was unsuccessfully operated upon and later found to have metastasis to the lungs. Three cases of the non-operated group were found to have adenocarcinoma at autopsy study. There were 5 cases incidentally found to have renal tumor, discovered at postmortem examination, in whose case records no findings were present that suggested the lesion. All 5 cases were males over 30 years of age and all were white. All were adenocarcinoma.

These 23 cases were divided into two groups, those operated upon and those that were not operated upon. The protocol shows this study. The only point of significant variation was that of duration of disease. The non-operated group had an average duration of symptoms more than twice that of the operated group. There were two cases in the non-operated group with durations of 14 and 25 years respective at the time of diagnosis as determined by the histories.

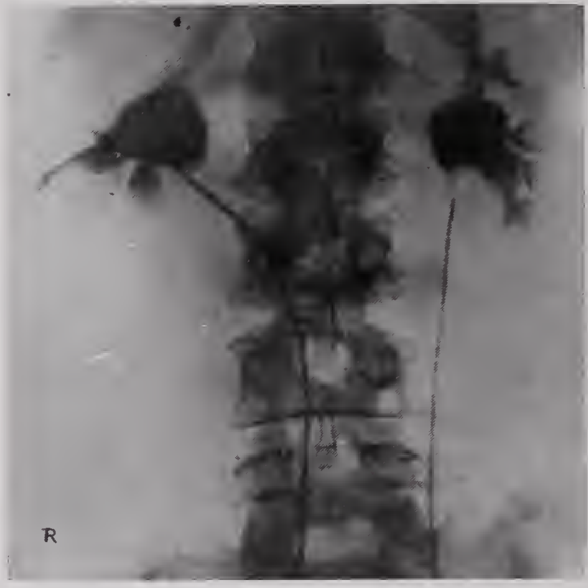

Fig. 1. Case No. 48548 showing enlargement of the lower pole of the right kidney with rotation of the kidney pelvis and displacement of the right ureter towards the left.

The following case records with x-ray findings are presented in order to stress certain points of interest:

A. M., Hosp. No. 48548, an American white housewife, age 41, entered the University Hospital Nov. 2, 1934, complaining of backache and right abdominal pain of a duration of nine years. Treatment had been for lumbago. Four years ago a mass was noted in the right side. There had been noted hematuria associated with back pain of only a few weeks.

Examination was essentially negative except for a right side abdominal mass which was not tender. Retrograde pyelogram showed enlargement of the lower pole of the right kidney with some rotation of the kidney pelvis. The upper half of the right ureter was displaced towards the left.

Nephrectomy of the right kidney: Weight 295 gms; about three-fifths of the kidney substance was replaced by tumor tissue in which there were many small cysts. The tumor was soft and yellow in color. The pelvis had not been invaded. Microscopic: The tumor cells were rather small with a clear cytoplasm. Tubule formation was prominent. Mitotic figures were not seen. This tumor was an adenocarcinoma of low grade malignancy.

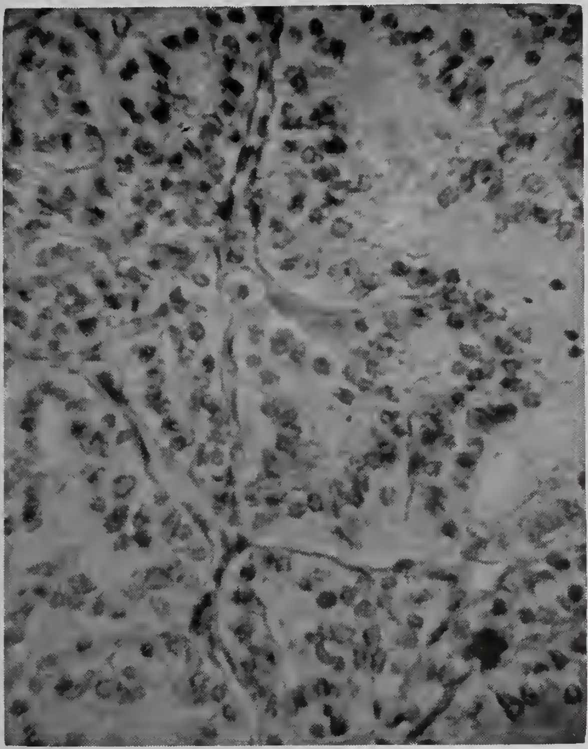

Fig. 2. Microscopic appearance of tumor of case No. 48548. The clear cells and tubular arrangement is shown.

SUMMARY

A case of renal tumor whose symptoms dated back 9 years before a correct diagnosis was made. The initial symptom was abdominal and back pain followed by abdominal mass of 4 years duration. Hematuria, at least grossly, was noted late. X-ray studies suggested renal tumor.

K. P., Hosp. No. 44086, an American white housewife, age 62, entered the University Hospital June 21, 1933, complaining of severe pain in the left lower abdominal quadrant for three years associated with nausea and vomiting and bloody urine. One year before entry a mass was noted in the lower left quadrant. Three weeks before admission the pain was severe in the abdomen and back.

Examination revealed a hard palpable mass in the left lower abdominal quadrant. X-ray studies with urethral catheters in place revealed a large mass on the left extending to the iliac crest. Following injections of opaque solution a double ureter and kidney pelvis was noted on both sides. On the right was a large kidney pelvis lying inferior with a smaller kidney pelvis above. These pelves with calices appeared normal. On the left the superior kidney pelvis was distorted and pushed upwards and showed a semi-circular undermargin as though there were protrusion or pressure from below. The inferior kidney on the left did not completely fill and was indefinite in outline.

Findings: Bilateral double pelvis and ureter with a large mass on the left with deformity on the left inferior pole. X-ray study of the chest showed definite areas of destruction in the posterior axillary position of the left seventh rib with pathologic fracture. There are other areas of destruction in the sixth rib and slight rarifaction of the inner end of the left clavicle.

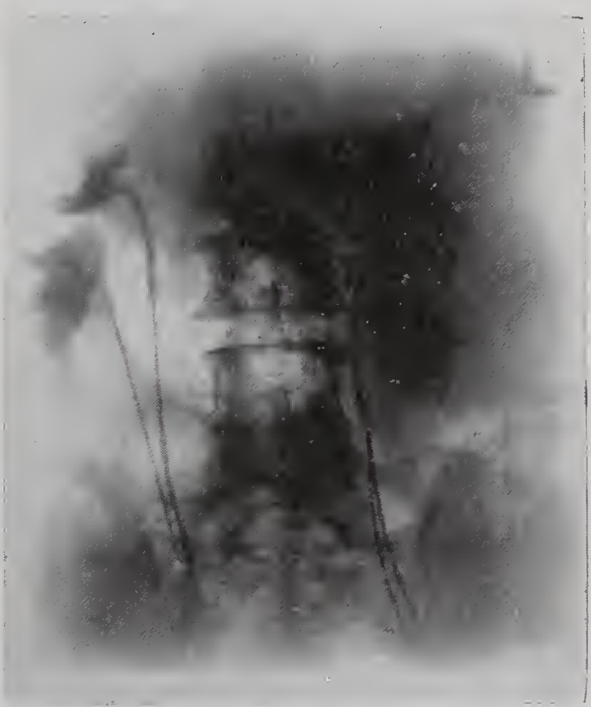

Fig. 3. Case No. 44086 showing double pelvis and ureter on the right. The distortion and upward displacement of the left is clearly shown with the lower pelvis displaced downward and medially.

Opinion: Kidney tumor with metastasis to ribs. The patient was considered inoperable and dismissed from the hospital.

SUMMARY

A case of renal tumor with metastasis whose case record showed an initial symptom of abdominal pain of a duration of 3 years. An abdominal mass had been noted for 1 year. A bilateral congenital anomaly was noted, double kidney, pelvis and ureter.

J. P., Hosp. No. 39226, an American white female, age 47, entered the University Hospital June 3, 1932, complaining of back pain and hematuria of a duration of 5 months. The patient had had no symptoms until 2 years ago when frequency and burning on urination developed. Two years later pain in the back over the right kidney area developed which radiated to the right leg and was associated with hematuria.

Examination revealed tenderness and pain and an abdominal mass over the right kidney. With opaque catheters in position a normal left kidney as to size and shape was found. The right kidney was obscured. Following injection of an opaque solution the left kidney pelvis was normal. The right kidney pelvis showed a sharp kinking at the ureteropelvic juncture. This pelvis was approximately 6 times normal size. The calices were not well filled due to the sharp kinking of the ureter.

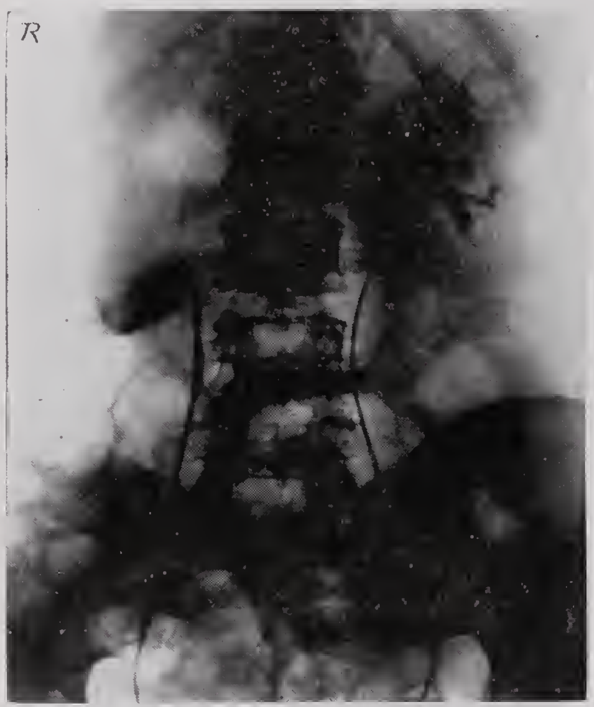

Fig. 4 Case No. 39226 showing the right pelvis dilated and sharply kinked on the ureter. Calyces are not well filled.

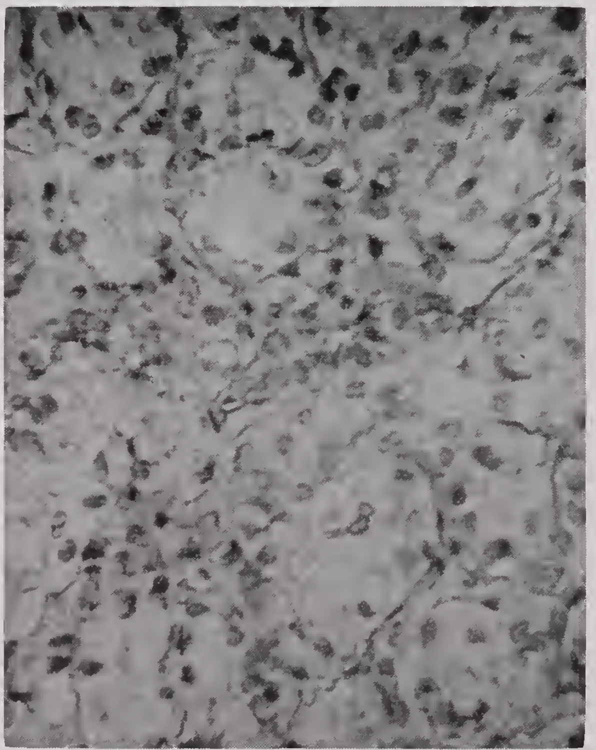

Fig. 5. Microscopic appearance of tumor of case No. 39226. The cells are clear and uniform. Evidence of tubule formation shown. Cystic cavities are present some filled with blood.

Impression: Hydronephrosis with sharp angulation of the ureter.

Nephrectomy was performed 5 days after admission. Pathological findings: The kidney measured 11 x 5 cm. One end was enlarged by a sperical mass of tissue. This mass was quite well encapsulated and on section showed much hemorrhage into the soft yellowish tumor tissue. The pelvis of the kidney was not invaded. Microscopically the cells were quite uniform and clear. There was an attempt at tubule formation. Many cystic cavities were present some of which were filled with blood. This is a moderately malignant kidney carcinoma.

SUMMARY

A renal tumor of short duration according to the history with striking findings as to x-ray and pathological studies.

DISCUSSION

Renal tumors produce symptoms by direct pressure, by necrosis and hemorrhage, by extension and by metastasis. A painstaking history will often recall to the patient forgotten symptoms such as intermittent or sporadic hematuria or a brief attack of renal colic. Afer eliciting such symptoms further studies such as cystoscopic and pyelographic studies must be done. Dr. Howard B. Hunt, Professor of Roentgenology of the Medical College of the University of Nebraska has personally given us the following radiographic findings as characteristic of renal tumors.

1. Elongation of calyces.
2. Encroachment of the pelvis.
3. Secondary pyelectasis.
4. Displacement of the kidney and its pelvis.
5. Deformity of the ureteropelvic junction and upper ureter.
6. Enlargement of renal contour.
7. Displacement of adjacent structures.

Realizing that the metastastic lesions of renal tumors may be widespread any obscure clinical picture should suggest the possibility of renal tumor. Renal tumors may by metastasis simulate disease of bones, especially spine, humerus, pelvis and skull, pulmonary disease, brain tumor, neck tumors, portal cirrhosis, carcinoma of the stomach, etc. We wish to stress that in many cases the symptoms, especially hematuria, have been present for long periods and have not impressed the examiner nor the patient. Hematuria was a presenting symptom either alone or in combination with other manifestations in 19 cases of this series. It appeared later in the course of the disease in the majority of the remaining. We wish to stress the fact that hematuria can never be dismissed lightly.

Causeless bleeding from the urinary tract is rare and every instance of hematuria should be thoroughly investigated. The fact that the bleeding is transient should not give a sense of security, for the bleeding from tumors, either of the kidney or bladder, is commonly intermittent. As in many other diseases, such as tuberculosis, cancer, and diabetes we feel that renal tumors should be specifically brought to the mind of the medical profession and to the public.

SUMMARY

1. Twenty-three cases of renal tumor seen in the University Hospital have been reviewed.

2. No significant variation was found in sex incidence, or in kidney involved.

3. Hematuria was the most consistent clinical finding and was the first symptom in the majority of cases.

4. Cases inoperable at the time seen had symptoms on the average twice as long as those considered operable.

5. X-ray studies offered significant aid in diagnosis of all cases.

	Operated	Non-operated	Incidental
Age			
Under 10	0	0	
10-30	0	1	
Over 30	12	10	5
Color			
Black	1	0	
White	11	11	5
Sex			
Male	5	10	5
Female	7	1	
Initial Symptom			
Hematuria	3	6	
Hematuria-pain-mass	2	0	
Pain	2	2	
Mass	1	1	
Mass and hematuria	1	0	
Pain and hematuria	1	2	
Pain-hematuria-loss of wt.	1	0	
Pain and loss of weight	1	0	
Duration			
Under 1 mo.	0	2	
1 mo.—1 yr.	6	1	
1 yr.—2 yrs.	3	3	
2 yr.—5 yrs.	0	2	
5 yr.—10 yrs.	3	1	
Over 10 yr.	0	2	
Laboratory			
Albuminuria	7	6	
Hematuria	5	4	
Anemia	4	4	
Blood Pressure			
Systole 120-150	4	9	
150-200	5	2	
Diastolic 70-90	5	9	
90-110	4	2	
X-ray			
Right	6	6	2
Left	6	5	3
Enlarged Kidney	8	6	
Distorted Calyx	6	2	
Displaced Kidney	1	0	
Distorted Pelvis	8	5	
Dilated Ureter	2	0	
Angulated Ureter	6	2	
Metastasis	1	5	
Diagnosis			
Adenocarcinoma	9	3	5
Sarcoma	0	0	

* * *

"Butter Yellow"

During the past months several reports have been published in scientific periodicals regarding the production of cancer of the liver in rats when they were fed a coal tar dye popularly called "butter yellow." Recently these reports have received considerable attention through such channels as radio, newspapers, and picture magazines.

Unfortunately, many people have assumed that there is a relationship between this dye—"butter yellow"—and butter. The nutrition staff of the National Dairy Council has undertaken a thorough investigation of the matter and has found that "butter yellow" is merely a trade name for a color used in dyeing textiles. Despite its name, it has no relation to butter or butter coloring.

According to information received from the United States Food and Drug Administration, the dye paradimethylaminoazobenzine, popularly called "butter yellow" and which was found to produce cancer in rats, is not used as a food color and may not be certified for such use. Only those coal tar dyes which are certified by the Food and Drug Administration as suitable for use in foods may legally be added to foods shipped within Federal jurisdiction.

Only two coal tar colors are used for tinting butter. These are, FDC No. 3 (1-Phenylazo-2-naphthylamine), and FDC No. 4 (1-0-Tolylazo-2-naphthylamine), both certified as harmless and suitable for use as food coloring by the Federal Food and Drug Administration. Furthermore, there is a definite trend on the part of the butter industry to use color of vegetable origin when required to meet consumers' demands for uniformity in the color of butter.

Some Recent Developments in the Study of the Gastro-Intestinal Tract*

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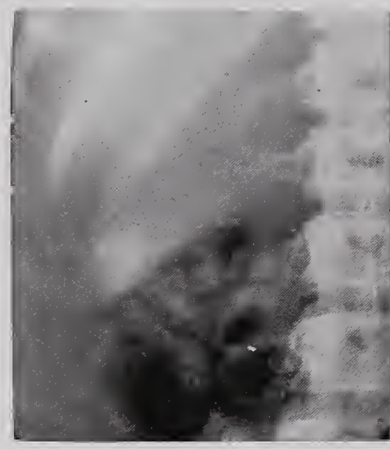
The definite location of gastro-intestinal disease is often difficult. Frequently the clinical history given by the patient is indefinite or misleading. It may suggest duodenal ulcer, cholecystitis, chronic appendicitis or any one of a number of conditions. Usually, physical examination is negative. Unless a large nodular liver or an abdominal mass can be felt there are no findings. Tenderness may be present over the gall-bladder region, but one would hesitate in making an absolute diagnosis from this finding alone. These are the cases in which the x-ray has become an absolute necessity.

A complete gastro-intestinal examination should include a fluoroscopic study of the chest. The heart should be studied for its size and contour. The esophagus should be observed as the patients drink the barium, the stomach should be studied for shape, size, position, motility, rugae markings and organic defects. The duodenal cap should be viewed from all angles and if there are indications a separate study should be made of the small bowel. Four hour and twenty-four hour examinations should be made to observe the progress of the meal.



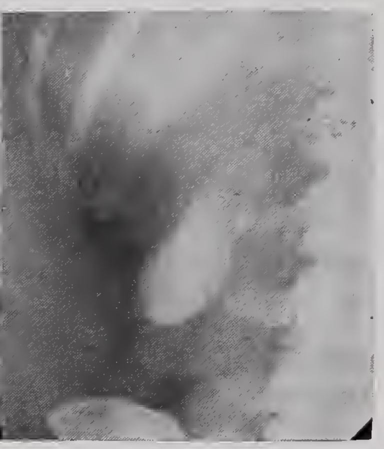


Fig. 1. Graham Cole study showing a poorly outlined gallbladder.
Fig. 2. The same patient 15 minutes later, after injection of one ampule of Pitressin.

The twenty-four hour study should include a barium enema and contrast air injection study of the colon.

To complete the gastro-intestinal study, it is often necessary to do a Graham Cole study of the gall-bladder.

Proper preparation of the patient for a complete gastro-intestinal is very helpful and will often turn failure into success. A soap suds enema, at home, the night before and again in the morning, will remove fecal matter and gas that frequently make confusing shadows. The patient should present himself without breakfast, as early in the morning as possible.

Even after this preliminary preparation, the patient will usually have a gas bubble in the cardiac end of the stomach. This is helpful in making a diagnosis of cancer of the cardia. Before any barium is given, this region should be studied for signs of cancer, which almost invariably produce visible shadows or deformities of contour. When the lesion is small, of course, it's corresponding shadow, or local deformity, is not striking and may be overlooked unless inspection is thorough. In such cases, use of recumbent positions to fill the cardia often causes the slight but significant manifestations of this condition to be hidden or effaced by the barium. After sharply scrutinizing the gas bubble of the empty stomach, barium suspension may be administered, but it should be given slowly and each swallow should be watched as it passes through the lower segment of the esophagus. Cancer of the cardia, implicating the esophagus, is manifest as a distortion or stenosis of the terminal portion, with or without dilatation above an abnormally retarded or continuous outflow of the barium. As the stomach becomes filled with the barium, the gas bubble distends the dome, which may be studied to greater advantage. Special attention should be given to the mesial aspect of the dome, as this seems to be a favorite site of cancer. At this stage, also, the barium can be forced up into the cardia by pressure over the dependent portion of the stomach, thereby coating the mucosa and facilitating further study of internal relief. The recumbent or Trendelenberg position may then be resorted to; the chief value of this position lies in differential diagnosis between a cancerous growth and a diaphragmatic hernia.

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*Read before the Scottsbluff County Medical Society, February 13th, 1941.

Studies of the rugae pattern are important and the presence of broadened, localized, ragged, irregular hypertrophic mucosal folds, is the most important x-ray sign of gastritis.

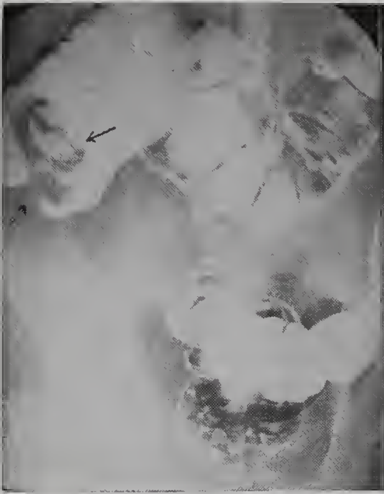

Fig. 3. Intussusception of terminal ileum into cecum due to carcinoma, shown best by air contrast study.

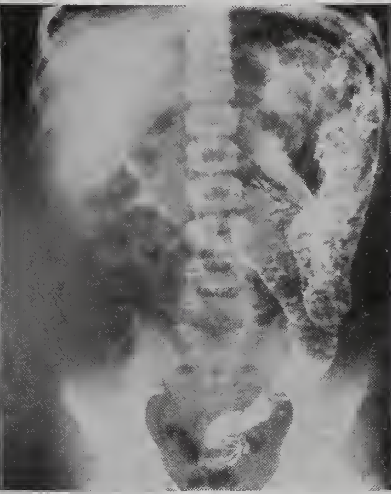

Fig. 4. Megacolon due to adhesive band shown best by air contrast study.

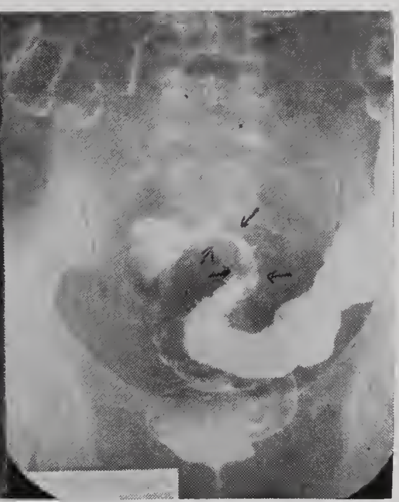

Fig. 5. Carcinoma of the Sigmoid shown best after evacuation of the barium and introduction of air.

Ulcers of the stomach are rare on the greater curvature but do occur. X-rays permit the diagnosis of both large and small ulcers on the greater curvature. These ulcers are sometimes malignant and x-rays are useful in differentiating between the benign and malignant ulcers.

The direct sign is a niche of a rigid diverticular form and the indirect sign is an incision or notch. Carcinoma invades the stomach wall, producing inflexibility and usually does away with the power of contraction. Peristaltic waves are obliterated. Normal mucosal folds are often obliterated, giving the wall a smooth appearance. The annular type of growth may narrow the lumen from both the lesser and greater curvatures and tend to produce an hour glass stomach. In the presence of carcinoma, there is usually a four to six hour residue, no matter where the neoplasm is located, but is less apt to occur when located high in the stomach.

The diagnosis of duodenal ulcer is based upon the demonstration of a persistent deformity of the shadow of the bulb. Frequently, these craters are on the anterior or posterior wall and can be demonstrated best by lateral views. Since adopting this position, as a routine, we have seldom failed to demonstrate the ulcer crater, and the majority of cases showing on the lateral view are not seen in the P. A. or oblique positions.

Small bowel studies are becoming increasingly important. Under normal conditions, gas is not seen in the small intestine, except in infants and the aged, aside from small quantities in the duodenum and terminal ileum. Obstruction of the small intestine causes dilation proximal to it with a collection of gas and fluid. When such a condition is suspected, a flat film of the abdomen should be taken without the ingestion of the barium. Only one hairpin loop of gas may be present at first; later, as more loops fill up, the well known "ladder effect" is produced.

Both paralytic ileus and mesenteric thrombosis may produce gas filled loops of small bowel, indistinguishable from mechanical obstruction. When the flat film fails to show evidences of obstruction, a small amount of barium may be given and followed through with hourly studies. Avitaminosis and more particularly the Vitamin B deficiency, is being diagnosed from studies of the small intestine. Sausage-like segmentation, with widened lumen, is suggestive of this condition. Often there will be an occasional loop of gas-filled small intestine which will move about from place to place.

Terminal or regional ileitis, chronic cicatrizing enteritis, or, as we prefer to call it now, non-specific granuloma of the intestine, is being diagnosed with increasing frequency. This disease is most frequently seen in young adults, but has been found in a child of six and older individuals as well. The duration of symptoms varies from a few months to a couple of years. The involved portion of the intestine is thickened, fibrosed, edematous, with hypertrophy of the muscle, and round cell infiltration. The lumen is distorted and usually narrowed, sometimes sufficient to cause symptoms of obstruction. The involved portion may be so irritable that it is never seen filled, but when visible, it's lumen appears narrow, with irregular margins. The normal mucosal markings are absent. A nine hour retention of barium in the loops, proximal to the involved portion, is frequently found. The condition is best shown on the fluoroscope or films taken from five to nine hours after the ingestion of barium. Many attempts have been made to determine the cause of these regional inflammatory conditions. Mock has expressed the opinion that they are due to some local interference with the blood supply to the tissue, followed by local necrosis and later a reparative tissue reaction. In three of his cases, trauma caused by severe external violence to the abdomen seemed to be a causative factor. The Mayo Clinic reported, recently, two cases in which trauma seemed to be the etiologic factor.

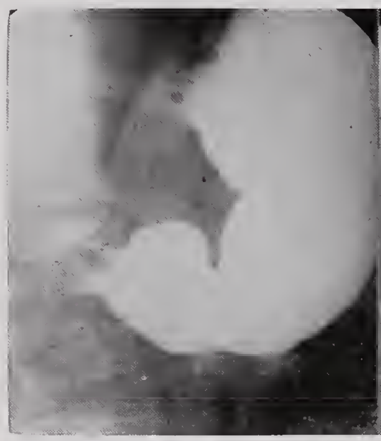

Fig. 6. Annular carcinoma of the prepyloric region of the stomach.

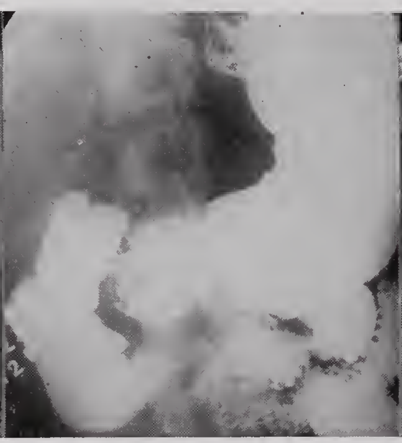

Fig. 7. Dilated second portion of the duodenum.

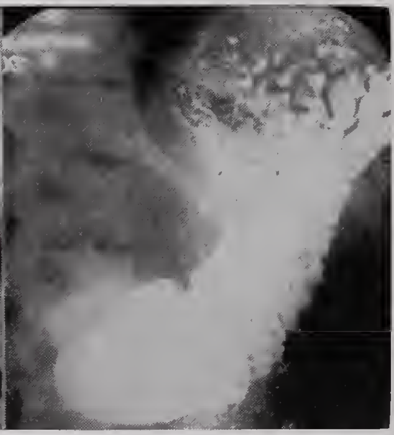

Fig. 8. Deep wide rugae markings found in gastritis.

Colon studies now include the double contrast enema. Twenty-four hours after the barium meal, the cecum, ascending and greater part of the transverse colon, ordinarily contain barium.

For the barium enema, a suspension of barium sulphate in water will suffice. The addition of Kaolin or plain Petrolagar seems to make the suspension a little smoother and more easily evacuated. The filling of the colon should be under fluoroscopic observation. The container should not be too high, one to two feet above the level of the patient's body is usually sufficient. If the intestine is not unduly irritable and if the flow is not too rapid, there will be little discomfort. During the examination, the patient may be turned from side to side to bring into view the obscured portions, such as the lower sigmoid, the hepatic and splenic flexures. If there is any question of these regions, a lateral film should be taken as well as the routine P. A. view. Following expulsion, the contrast study should be made by means of air forced into the colon from a large rubber bladder, previously inflated or by means of a small rubber bulb. Enough air is then insufflated to distend the entire colon moderately. By this means, one can fill out the walls of a colon that have presented difficulty in filling with barium. It provides a double check on an organic lesion and may bring out some pathological condition that does not show through the barium. Polyps, ulcers and diverticula are frequently seen that would otherwise be overlooked.

To complete the study of the gastro-intestinal tract we must study the gall-bladder. The Graham Cole method is too well known to need mentioning. One step of technique that will often benefit this study is the use of Pitressin for the removal of gas in the colon. This substance has a direct effect on the colon, will not empty the gall-bladder nor

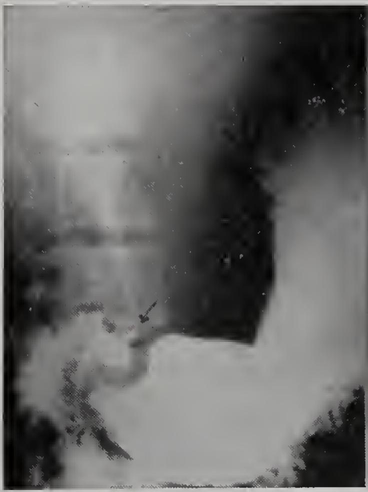

Fig. 9. Penetrating duodenal ulcer vissibe only on lateral view.

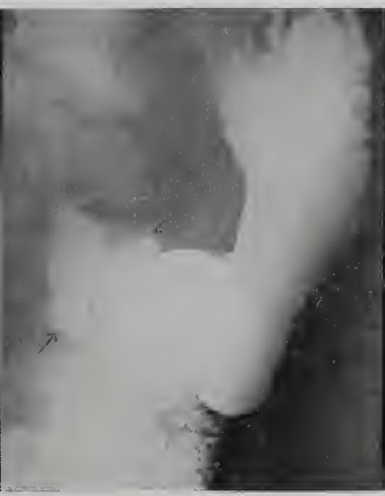

Fig. 10. Double duodenal ulcer visible only on lateral view.

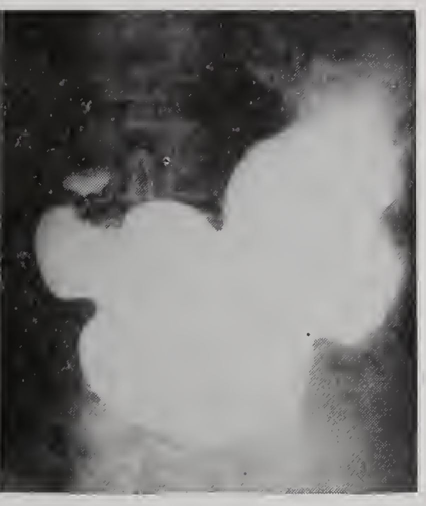

Fig. 11. Gastric ulcer causing pyloric stenosis.

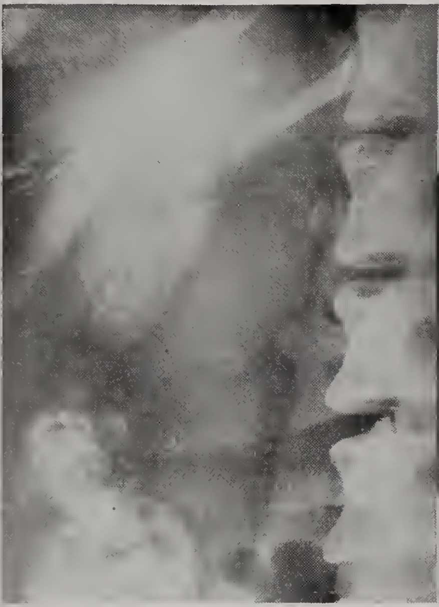

Fig. 12. Cholesterol gallstones and cholesterosis demonstrable only with the dye.

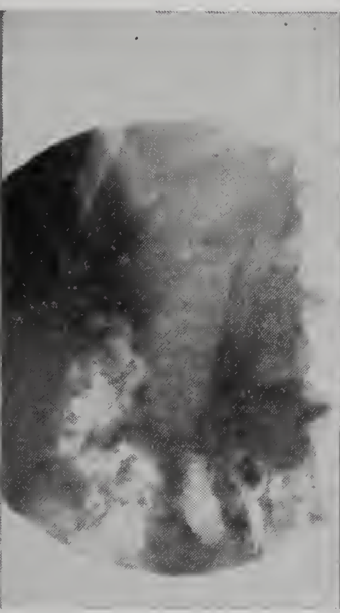

Fig. 13. Cholesterol gallstones demonstrable only with the dye.

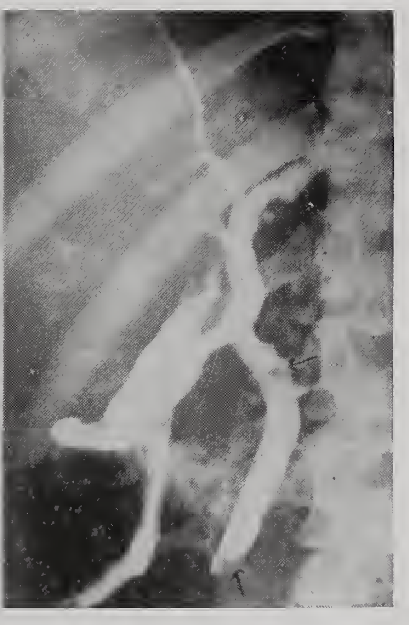

Fig. 14. Cholesterol gallstones in bile ducts after operation demonstrable only after injection of diodrast into ducts.

cause any uterine disturbances. It's use has been very helpful.

SUMMARY

Recent developments in studies of the gastro-intestinal tract include:

1. A study of the cardiac dome through the gas bubble in the stomach.
2. A study of the rugae pattern of the stomach.
3. Lateral views of the duodenum.
4. Five to nine hour studies of the small bowel.
5. The use of air for a double contrast study of the colon.
6. Pitressin is suggested as an aid to diagnosis of gall-bladder conditions, if confusing gas shadows are present.

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The Correlation of Ophthalmology and General Medical Practice*

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This paper should really be written by an older doctor who has a better grasp of the delicate balance of the doctor-patient relationship but since I have been given the opportunity to take your time on this program, I, a younger doctor, must do the best I can with it. It is a real problem and with the present economic conditions getting no better, there will be more and more pressure on every special branch of medicine to solve the problem of its relation to the practice of medicine in general. If my father were alive, I know he would have liked to write this paper and would have been able to formulate the proper answers. The problem as I see it is this: Medicine must do more than maintain the respect of the people, or the state will take it over and govern medical practice as it does the post office and as it threatens to govern "monopolies." We must continue to give better medical care at a cost the people can afford to pay.

Specialization is absolutely necessary but it increases the cost of medical service to the patient. This increased cost is really the large factor that people are complaining about. I am convinced that more people have a greater respect for medicine today than ever before, and medicine deserves this respect. The large mass of people want more of this better brand of medicine, but they are not willing or are not able to pay for it. This causes the demand for state medicine or some so-called panacea, which is supposed to give them all this specialized care at a rate they think they should pay or can afford. As doctors we may be too late to alter the course of this demand, and maybe the demand is justified. At any rate, if we can deliver better medical service to a greater number of people even at the same cost, we should be able to maintain the free practice of medicine. Give the patient his money's worth and he won't complain.

Ophthalmology, being one of the oldest and most specialized of the special branches of medicine, should serve as a good example for the other branches of medicine. On looking at the practice of ophthalmology in general, tremendous progress has been made in treating actual eye diseases and the use of surgical techniques. Three great causes of blindness have almost disappeared, gonorrheal ophthalmia, trachoma and interstitial keratitis. One large field where little progress has been made is glaucoma, but on the whole people are getting better treatment now than ever before. The degenerative diseases of the retina and choroid offer little chance for improved treatment. Hundreds of other local eye diseases are being taken care of in a satisfactory manner.

The patient with definite loss of vision or an eye disease, usually comes to the specialist directly and in general he is well handled. The patient is satisfied. If he is referred to the specialist by his doctor, he is still satisfied as a rule, even if the eye is lost. But these actual eye diseases make up only a small part of the oculist's practice. I would say roughly ten to twenty percent. The rest of our time is spent in dealing with vision and fitting glasses. It is here that our relationship with medicine breaks down. By far the most common of this eighty or ninety percent of cases is the patient complaining of headache. If he comes directly to the oculist, he is often referred to an internist for further study. If he comes to the internist, he is often referred to the oculist. This causes extra expense. After the double shuffle, the patient usually still has his headaches and on the whole is dissatisfied. If he hasn't already spent all his money on chiropractors and optometrists, he will promptly do this, or join the Christian Science Church. These are the cases that give medicine a black eye and the doctors begin to have the headaches. I really think is is the major problem and deserves more study. In approaching this problem it is necessary to re-study the entire problem of vision.

What is vision? Nobody really knows much about it but we know it is made up of two large and separate processes. First there is the action of light on the retina. This is purely an optical and chemico-physiologic problem. Research in the field of optics and bio-chemistry have given us a pretty clear picure of how this part of the visual process takes place; at least as far as the formation of the image and nerve impulse is concerned. Thus in dealing with refractive problems the ophthalmologist is quite competent. This part of vision may be called vision proper or visual acuity. Visual acuity in man has evolved to a certain degree of exactness, the normal we designate as 20/20. As soon as we mention 20/20 we are stepping out of the physical and bio-chemical part of vision and are entering the preceptual nature of vision. This is the great stygian darkness of the mind. The mental or perceptual side of vision is called "seeing" or the sense of sight. An eye with a cataract and visual acuity of only light perception can be said to have no useful vision but it may still retain its sense of sight. The sense of sight is still there and capable of functioning. This confusion of visual acuity and the sense of sight is being capitalized on by the light and power companies. Their slogan "Better Light—Better Sight" has sold thousands of unneeded kilowatt hours of electricity to businesses and housewives. It is obvious that a man blind from optic atrophy cannot see a bit better with 1,000 foot candles than he can with 1 foot candle. "Better Light—Better Sight" is an absurdity and even "Better Light-Better Visual Acuity" is only true in a limited sense. Increasing the intensity of light beyond 10 foot candles increases visual acuity so slightly that it is hardly measurable. You and I can read quite well with only 1 foot candle. Certainly unnecessary artificial light above 10 foot candle is wasted energy. The power companies recommend as high as 30 to 50 foot candles. "Better Light—Better Profits" is the correct way of stating this slogan.

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*Read before Annual Assembly, Nebraska State Medical Association, Lincoln, May 6, 1941.

The sense of sight like our other special senses, such as taste, touch, smell or hearing, depends on mental function for its complete activity. Sight develops in mankind principally as unconditioned reflex. That is, by merely the passage of time. By growing up to the age of eight, white men will normally develop a visual acuity of 20/20. The colored race and the oriental are similar in this respect. The sight of dogs and birds is different than ours. This simple statement about vision being an unconditioned reflex is not entirely true since we know that in such pathological conditions as strabismus "usage" is quite a large factor in conditioning visual acuity. Usage is the conditioning part of the reflex act of vision.

In strabismus an eye that is not used does not have a chance to develop its visual acuity, and vision is even suppressed to a lower level if disuse occurs at an early enough age. This is the most scientific approach to the problem of vision and is worth understanding better. A careful reading of Worth's new edition of "Squint" written by Chevasse, is truly illuminating beside being very valuable and amusing reading. This is a new approach and not Worth's old book at all. It gives a very useful picture of how we learn to see and why some children do not learn to use their eyes normally.

This demonstrates the part the mind plays in completing the visual act. An imbecile may have 20/20 vision and still never be able to learn to read. In attempting to study the mind you immediately run into difficulty. But if you will just remember that the visual act is a perceptual process of the mind and not just a mechanical business of light, rods, and cones, my time will be well spent. The study of the mind has this inherent difficulty which makes it seem almost hopeless. There is no unit of measure of the mind, no physical units, only metaphysical. Psychology is a branch of metaphysics and cannot be called a true science. Physiology, which is a branch of physics and which has purely physical units of measurements, is a science.

Visual perception is a sensation and it is impossible to interpret adequately the sensation of anyone except ourselves. I, as an individual, experience a sensation. No one else in the world can experience that sensation the same way or interpret that experience for me. All I can do is to observe the responses made by others, and deduce from them their hypothetical experiences. For example, I see a pretty girl walking down the street. My visual sensation is not similar to yours or anyone else's. How can I tell what or how someone else sees? If you watch my behavior as she passes, you may make a proper deduction, but again, you may not. A minister may turn around also but he may be seeing something altogether different from what you or I have seen. For man to study the mind and perception in general he must be a super man with a super mind, capable of looking down on the mind from a higher level of experience; in other words, a supernatural mind is needed and I do not yet believe in the supernatural. Man can study the minds of dogs and the minds of children, and primitive peoples. From these studies, principally by Pavlov and others following his line of research, fairly clear deductions may be made, but in transferring these deductions to man we must be very careful. This is physiology. A study of these conditioned reflexes gives us this very simple definition of the nature of visual perception. Vision is a complex set of conditioned and unconditioned reflexes, the result of the two coordinative processes of summation and inhibition. It is this lack of factual knowledge about the mental aspect of vision that is responsible for the neglect of using it in the practice of ophthalmology. But this is no excuse for denying the existence of the mental part of vision. It is almost impossible to find anything in the ophthalmic literature on the subject. Rutherford in 1932 could only find six articles on this subject in 41 published volumes of the Ophthalmological Section of the A. M. A. In the next eight years there were two more that touched lightly on the subject. There is no special heading in the eye journals for psychopathies of the eye. Even neuro-psychiatry shows a very small amount of literature on this subject. The latest book (1941) on the Therapy of the Neurosis and Psychosis by Kraines gives only two pages to the relation of headaches to the eyes. In looking up the literature on headaches, there has been a good deal written recently about migraine and histamine headaches but these are dealt with purely from a physical standpoint. Another reason for disregarding the psychic factor is purely selfish. We don't really want to understand it. It might hurt our business. If we fitted glasses only to correct vision as it should be done, we might be killing the goose that lays the golden eggs. But I think it should be killed. A careful search of the scanty literature shows that this is not a new idea, but I believe it is the only scientific and honest way of looking at the question. Let me quote W. S. Inman, an Englishman, who wrote in 1921:

> "During the past fifty or sixty years it has been customary to regard errors of refraction as the cause of many symptoms of ill health. Headache, tics, insomnia, inability to concentrate attention, photophobia, flushing and watering of the eyes, neuralgia, anorexia, constipation, anemia, mental dullness, sleepiness and languor, squint, migraine, hysteria in many of its forms, are but a few of the troubles attributed directly or indirectly in modern English text-books to eyestrain. Some American ophthalmologists have been even more extravagant in their views, and claim to have cured scores of other ills by means of glasses. The mental and emotional state of the patient has not been considered, and the possibility of this state determining the eye symptoms instead of the eye condition causing the general manifestations appears to have eluded both oculist and physician. It is the object of this paper to show that the eye rarely produces other than ocular symptoms, unless the patient is emotionally unstable, and that he frequently is relieved, not by glasses but by suggestion or else by some adjustment of the inner life usually unknown to the oculist."

What is eyestrain? Have any of you tried to find out just what is meant by eyestrain? I would say that there isn't a one of us that doesn't hear that term used from one to ten times a day. What is it? Dorland's Dictionary defines it as "Weariness of the eye from over use or from uncorrected defect in focus of the eye." This is a good definition and simply means eye fatigue or tiredness. This is simple and most doctors realize this. But to the patient, eyestrain is something harmful and may lead to blindness. The word strain means "to over-exercise, to use to an extreme and harmful degree" and this is where the dishonesty comes in. We continue the use of this ambiguous term. We let patients and people in general go on believing that eyestrain is harmful while we know or should know it is not. Have any of you ever seen a disease of the eye caused by eyestrain? Have you ever heard of a smell-strain or taste-strain or a touch-strain? Vision is no different from these other senses except for one particular. In order to see we must move our eyes and in doing this they are capable of getting tired, although they actually have a tremendous reserve of power. If there is no such thing as eyestrain then we should tell people so. One of the greatest fears of most people is blindness. Most of them are firmly convinced that eyestrain, I should say eye fatigue, may lead to loss of sight and a real neurotic is certain of this. Dr. Derby of Boston said that he should like to see the word eyestrain banished from our vocabulary. He said, "if the general public could learn that eyes are seldom strained this would be a much happier world to live in." I would say, "that eyes are never strained," and it is our job to tell the public about it.

Are there any diseases in our ophthalmic text-books listed as caused by eyestrain? I haven't found any except myopia and this is a very debatable subject, the cause of which is still unknown. This leads us right back to what the dictionary says eyestrain is. It is weariness of the eyes. I like to call it eye fatigue. This is a harmless word and tells the truth. It is also reassuring and at least one-half of all the neurotics are satisfied if they can be reassured that they are not going to lose their vision if they use their eyes too much. The other half are terriby disappointed because now they have no crutch to lean on. No excuse for their hot compresses and their boric acid eye washes. They might even have to play bridge or read a book if they could not have their eyestrain. This half needs to see a neurologist to find out why they need this crutch.

Headache is the same sort of thing. It is merely a symptom without signs and is the universal excuse for breaking an unpleasant appointment or not doing an unpleasant job. Headache is not as easily disposed of as eyestrain, because there are some organic headaches, but I am sure ninety percent more of the so called eye-headaches if you remove the possibility of eye fatigue are purely an emotional disturbance. If this is the case with headaches and eyestrain, why do we prescribe glasses? I say it should be done only to improve vision and if by doing this we can lessen fatigue, then we are on safe ground. But we are still in the dark about ocular fatigue. I have looked and looked and can find no sensible discussion of ocular fatigue. An article in this last Archives which deals with sleep and the eye, is excellent, but it is only a starter on the entire problem.

While we are waiting to find out about the physiology and pathology of ocular fatigue, I am sure we could improve the correlation of ophthalmology and general medical practice by putting some study on this mental aspect of vision and using it in our everyday practice.

In summary I would like to list some of the things which we could do.

1. Accept the idea that a great many ocular symptoms are emotional disturbances and are due to fatigue and deal with them as such. Do not refer them to the oculist unless there is a definite disturbance in visual acuity.
2. Study the recent works on neurosis and the early works of Freud and Pavalov.
3. Prescribe glasses only to improve vision. If the refractive error is small and symptom large, look for an emotional basis. If the patients are definitely neurotic with other definite signs, send them to a psychiatrist, not a chiropractor.
4. Never use the term "eyestrain". If the patient uses it explain the error to him. Use the term eye fatigue.
5. Maintain your personal integrity. Be absolutely honest.
6. Don't forget the optometrist and the government are pounding on the door.

* * *

Malnutrition Is Widespread in This Country

"The evidence at our disposal warrants the conclusion that dietary inadequacies and malnutrition of varying degrees are of frequent occurence in the United States and that the nutritional status of an appreciable part of the population can be distinctly improved," Norman Jolliffe, M. D., New York; James S. McLester, M. D., Birmingham, Ala., and H. C. Sherman, Ph. D., Sc. D., New York, declare in summarizing a paper on "The Prevalence of Malnutrition," published in The Journal of the American Medical Association for March 21. "If optimal nutrition is sought, not mere adequacy, widespread improvement is possible," they add.

In the introduction to their paper they explain that "Recent estimates of the prevalence of malnutrition in the United States have varied so greatly that the Food and Nutrition Board of the National Research Council has assigned to us, as a subcommittee, the task of evaluating existing evidence on this question. Among the reasons for the widely varying estimates is the lack of criteria for the diagnosis of malnutrition. It is therefore necessary before discussion of the evidence that terms be defined.

" 'Nutritional failure' exists as soon as adequate amounts of an essential nutritional factor or factors fail to reach the 'milieu interne' (desired state).

" 'Dietary inadequacy' means the failure to ingest an essential nutritional factor or factors in amounts sufficient to meet the existing requirement of the body.

" 'Nutritional inadequacy means not only the failure to ingest, i. e. dietary inadequacy, but failure to absorb, to retain and to utilize an essential nutritional factor or factors in amounts sufficient to meet the existing requirements of the body.

" 'Malnutrition' is a bodily condition, detectable by any method of examination, caused by a nutritional inadequacy."

In their summary they say that "Malnutrition is accompanied by manifold signs and symptoms, diverse in nature, and to the casual observer their origin and significance is not always apparent. Some types of malnutrition are strikingly obvious to every one, some are apparent only to the physician who looks for them and some are vague and elusive even to the careful observer using the most accurate specialized technics. If the first group alone is counted the prevalence of malnutrition will be recorded as low, almost negligible. If the second group is counted it will be recorded as high. If the third group is included then the rate will be sufficiently high to occasion genuine concern."

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medica services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical sevices and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

THE SEVENTY-FOURTH SESSION

Never in the history of the Nebraska State Medical Association was the annual session confronted with as many complexities as will require consideration of our official bodies this month. The war has brought about a multitude of personal, professional, local, and national problems for organized medicine, the like of which has hitherto been unknown anywhere in the whole civilized world. Problems relating to the medical care of civilians, the supply of physicians for our armed forces; matters pertaining to legislation, particularly those relating to the modernization of our medical practice acts; medical economic dilemmas, old and new; these are only a few of the highlights which suggest themselves for study and deliberation by the House of Delegates. There will be undoubtedly, many others, scheduled and unscheduled.

It is to be hoped that members of our Association are appreciative of the responsibilities which they have placed on their representative delegates and that the latter in turn are acquainted with the opinions and dispositions of their constituents regarding the problems to be considered. The principles governing our Association are based on democratic rule with full freedom of expression afforded all who belong to it. There is nothing in our constitution and by-laws which bars a member from attending any or all open sessions of the House of Delegates and on recognition by the speaker state his views on the specific problem under discussion.

CHILD HEALTH DAY, 1942

A Message from Surgeon General Thomas Parran, U. S. Public Health Service

Our President has set apart one day—Child Health Day, May 1, 1942—to complete a specific task within a specific time. It has been our custom for several years past to dedicate May Day to our children. This year's call to action is clearly of specific import to a nation at war. The task set for accomplishment does not call for expenditure of a great deal of time; it requires no expansion of services already available.

(Continued on Page 184)

Your President

DEXTER D. KING

Your president was born in York County, Sept. 19, 1884, son of Burnard and Lillie F. (Clark) King, who came to York County from Illinois in 1878. His parents moved to Fremont, Nebr., in 1887, and returned to York, Nebr., in 1891.

Dr. King attended the public schools in York and graduated from the York high school in 1904. In January, 1909, he entered the University at Lincoln to begin the study of medicine, graduating in June, 1914.

On June 22, 1906, he married Miss Mary Anderson of York, Nebr. There are two sons, both graduates of the University of Nebraska Medical College; Dr. Boyd G. King, practicing internal medicine in Cleveland, Ohio, now a Major, M. C., with the Lakeside Hospital Unit in Australia, and Dr. Thomas A. King, resident in Surgery, Lakeside Hospital, Cleveland.

Dr. Dexter King served his internship in Iowa Methodist Hospital, Des Moines. He practiced at Waco, Nebr., two years then moved to York and has been there ever since.

He served 18 months in first World War, going to France with Base Hospital Unit No. 19, from Rochester, New York, and was stationed at Vichy, France, except a short period with Evacuation Hospital No. 7, behind the Aisne-Marne offensive in July, 1918. Was returned a Captain in the Medical Corps.

Besides belonging to numerous local civic clubs and fraternal orders he is a past president York Rotary club; member Lincoln University club; director the Alumni Association, University of Nebraska; first commander American Legion Post, York, Nebr. He is a member of the County, State and Fellow of the American Medical Association. He served 10 years as Councilor Sixth District NSMA. He has been attending physician to the State Odd Fellows Home at York, since 1919. He is past president of the Elkhorn Valley Medical Society. His fraternity is Phi Rho Sigma.

Avocation—Taking long trips with the Nebraska football team.

President Roosevelt calls upon the people in each of our communities to contribute to the sum of child health by reducing chances of illness over nine months of age against two diseases for which we have surest means of prevention — smallpox and diphtheria. And we are asked to complete this health defense task by the first of May.

Aside from the safety afforded our children by this simple action, full-scale vaccination and immunization against diphtheria among the youngest groups of the population is a patriotic duty. The total strength of our nation depends upon total protection against preventable disease.

Every state and local health department, every physician, stands ready to help parents give their children protection against smallpox and diphtheria. Physicians in some localities may further advise immunization against whooping cough or typhoid fever.

While we are accomplishing this nationwide program of prevention, let us not forget the other helpful measures to be undertaken for our children's health protection. We may soon be faced with far more serious war situations than face us today. We may suddenly have to evacuate children from areas in danger from bombing or sabotage. There may not be time to do the simple things we planned for them—to have their teeth examined, to have complete physical check-ups, to correct remediable defects, and to build their reserves of vigor through better nutrition. It is up to us to pack their "health kits" here and now.

Every step which can be taken to fortify the health and happiness of America's children should be considered as a wartime "must."

It is my earnest hope that no opportunity offered by Child Health Day for the conservation of national strength be neglected by responsible Americans.

THE PREVENTION OF DIABETES MELLITUS

Since Allen's work in 1914 on total calorie restriction in the treatment of diabetes—that principle, based upon the theory that rest strengthens a weakened function has been one of the cardinal rules in the treatment of diabetes. Allen felt that exhaustion of islet cells resulted from overwork and that the intensity of the diabetes paralleled the severity of the islet changes.

The "rest principle" used in the treatment of a damaged heart, a diseased kidney, a sprained joint, or a tuberculous lung is sound and resting of the islet cells of the pancreas of a diabetic constitutes rational treatment.

Young has shown that by the injection of anterior-pituitary extract, overstimulation of pancreas occurs and hydropic degeneration of islet cells takes place. Various stages up to total diabetes can be shown by varying length of interval and dosage of A. P. Extract and that if the injections are stopped before the degeneration is too far advanced, the islet cells recover and the insulin content returns to normal. Van Mering and Minkowski in 1889, first showed that true diabetes could be produced by pancreatectomy, and Homans and Allen demonstrated that by leaving a small remnant of pancreas, they could observe progressive degranulation and finally hydropic degeneration of the Beta cells of the islets of Langerhans.

Recent experimental work (Best, Haist, and Campbell) has shown that by giving the pancreas of diabetic animals physiologic rest, strain upon islet cells is reduced, and restoration of exhausted cells to normal insulin secreting function is permitted. These writers have shown that by giving insulin to partially depancratized animals or to animals made diabetic by sufficient injections of anterior-pituitary extract, they can prevent these morbid changes. They have also shown that fasting and fat feeding have the same effect; that the insulin content of the pancreas was lessened, and that by these methods, the need for endogenous insulin was decreased and the islet cells rested and restored as evidenced by mitotic figures in the cells. They showed that a diet of sugar prevented a reduction in the insulin content, that the insulin content was higher for a group of animals fed both sugar and fat than for those fed fat alone—that protein feeding had the same effect as a diet of sugar.

Watson at the University of Minnesota over a ten-year period has done routine tolerance tests on all students showing a glycosuria and has classified the curves as follows:

1. Diminished tolerance.
2. Diminished assimilation.
3. Diminished tolerance and assimilation.
4. Chemical diabetes.
5. Clinical diabetes.

He found definite progression from diminished tolerance to clinical diabetes occurred frequently but that it was possible to check and even reverse the process in the first four stages by a restricted fat diet, but difficult to reverse the process and obtain normal curve in those with the clinical diabetic curve.

The above experimental work suggests that the medical profession make a diligent search for diabetes among the children and relatives of diabetics, particularly the obese, in the hope that the cases may be treated before all the islet cells are damaged.

Frank Conlin, M. D.

PROGRAM SEVENTY-FOURTH ANNUAL CONVENTION NEBRASKA STATE MEDICAL ASSOCIATION

Omaha, May 4, 5, 6, 7, 1942
Hotel Fontenelle

Tuesday, May 5, 1942 - 9:30 A. M.

Clayton Andrews, Lincoln, *presiding*

9:30 "The Value of the Salicylates as Compared with the Sulfa Drugs"
—S. A. Swenson, Rushville

10:00 "Postoperative Neurologic Complications"
—Henry W. Wolman, Rochester, Minnesota

10:30 "An Open Psychiatric Division in a General Hospital"
—Robert J. Stein, Lincoln

11:00 Presidential Address
—W. P. Wherry, Omaha

11:25 Installation of President-Elect
—Dexter D. King, York

11:35 Address—Program Committee
—J. E. M. Thomson, Lincoln

11:45 Necrology
—O. V. Calhoun, Lincoln

ALUMNI LUNCHEONS - 12:00 Noon

University of Nebraska—Ballroom
Creighton University—Embassy

Tuesday, May 5, 1942 - 2:00 P. M.

G. E. Peters, Randolph, *presiding*

2:00 "Surgical Relief of Pain"
—W. T. Peyton, Minneapolis, Minn.

Symposium on
"CHEMOTHERAPY"

2:30 "Pharmacologic and Toxic Effects of the Sulfonamides"
—Raymond J. Wyrens, Omaha

2:50 "Chemotherapy in Diseases of the Genito-Urinary Tract"
—W. H. Schmitz, Omaha

3:10 "Chemotherapy in Gynecology and Obstetrics"
—Harold S. Morgan, Lincoln

3:30 "Chemotherapy in Compound Fractures and Osteomyelitis"
—Herman F. Johnson, Omaha

3:50 "Chemotherapy in General Surgery"
—Frederick C. Hill, Omaha

4:10 "Chemotherapy in Diseases of the Upper Respiratory Tract and in Pneumonia"
—Lynn T. Hall, Omaha

4:30 Open Discussion

DINNER—TUESDAY EVENING

6:30 - Ballroom

Dexter D. King, York, *presiding*

Immediately following dinner:
"Medical Licensure in Nebraska"
—J. W. Holloway, Jr., Acting Director
Bureau of Legal Medicine and Legislation
American Medical Association, Chicago, Illinois

Wednesday, May 6, 1942 - 9:30 A. M.

C. H. Sheets, Cozad, *presiding*

9:30 "The Differential Diagnosis and Management of Coma"
a. Medical Aspects
—Edmond M. Walsh, Omaha

9:50 b. Neurologic Aspects
—Wilbur A. Muehlig, Omaha

10:30 "Treatment of Athletic Injuries"
—Marcus H. Hobart, Evanston, Ill.

11:00 "The Present Day Tuberculosis Problem"
—Benjamin Goldberg, Chicago, Ill.

11:30 "Bedside Neurology for the General Practitioner"
—LeRoy H. Sloan, Chicago, Ill.

LUNCHEON - 12:00 Noon

Auditorium

W. P. Wherry, Omaha, *presiding*

Immediately following luncheon:
"Experiences in This War"
—Samuel J. Kopetzky, New York, N. Y.
President, Medical Society State of N. Y.;
Colonel, United States Medical Corps

Wednesday, May 6, 1942 - 2:00 P. M.

Earle Johnson, Grand Island, *presiding*

2:00 "Prostatectomy with Minimal Hospitalization, without Preliminary Drainage"
—Edwin Davis, Omaha

2:30 "Emergency Treatment of Fractures—How to Handle Various Types of Fractures Before They Are Reduced"
—Rex L. Diveley, Kansas City, Mo.

3:00 "War Casualties"
—Chas. McLaughlin, Omaha

3:30 "The Significance of Glycosuria"
—Frank Conlin, Omaha

4:00 "Establishment of Respiration in the Newborn—Influence of Ether Anesthesia"
—W. C. C. Cole, Detroit, Michigan

4:30 "Perils of Colostomy"
—A. F. Jonas, Jr., Omaha

BANQUET—WEDNESDAY EVENING

Floyd S. Clarke, Omaha, *presiding*

6:30 Ballroom
Entertainment

Thursday, May 7, 1942 - 9:30 A. M.

F. L. Rogers, Lincoln, *presiding*

9:30 "Should Most Gastric Ulcers be Treated Surgically or Medically?"
—J. Dewey Bisgard, Omaha

10:00 "Function of the Procurement and Assignment Service"
—Roy W. Fouts, Omaha, Chairman, Procurement and Assignment Service, 7th Corps Area

10:30 "Encephalitis in Nebraska in the Summer of 1941"
—G. Alexander and Richard H. Young, Omaha

11:00 "Acute Surgical Infections of the Kidney"
—A. D. Munger, Lincoln

11:30 "Endocrine Problems in the Male"
—Willard O. Thompson, Chicago, Ill.

LUNCHEON - 12:00 Noon

Ballroom

G. L. Pinney, Hastings, *presiding*

Immediately following luncheon:
"Common Sense in the Practice of Medicine"
—Willard O. Thompson, Chicago, Ill.

"The Status of Stilbestrol"
—J. P. Greenhill, Chicago, Ill.

Thursday, May 7, 1942 - 2:00 P. M.

G. F. Hoffmeister, Imperial, *presiding*

Symposium on
"COMPLICATIONS OF LABOR"

2:00 "Management of Labor in Contracted Pelvis"
—Ralph Luikart, Omaha

2:20 "Obstetric Shock"
—Earl C. Sage and W. E. Brown, Omaha

2:40 Presentation of Oliver Wendell Holmes Trophy

2:50 "Hemorrhage"
—W. C. Kenner, Nebraska City

3:10 "Secondary Uterine Inertia"
—H. E. Harvey, Lincoln

3:30 "Soft Parts Dystocia"
—J. P. Greenhill, Chicago, Ill.

4:00 Open Discussion

ADJOURN

(A list of the Technical Exhibits appears on Page xvi).

ANNOUNCEMENTS

Do not forget the "Sportsmen's Activities" scheduled to begin Monday preceding the Annual Assembly at 1:00 o'clock. There will be a Trap Shoot and Golf at the Happy Hollow Club, followed by dinner in the evening. A cup and prizes will be distributed as usual in the manner befitting the occasion. Shooters and golfers are cordially invited to participate.

Please attend the technical exhibits and register at every booth. The exhibitors are contributing to the success of the Annual Assembly, they deserve your cooperation and encouragement.

Speakers participating in the Annual Session are urgently requested to have their manuscripts ready for publication.

Michael Reese hospital offers a full-time Intensive Course in Electrocardiography, two weeks, August 17 to August 29, 1942.

This is an intensive course offered to the general practitioner. There will be practice on several electrocardiographic machines and discussion of the principles of their construction and use. There will be sessions on interpretations of electrocardiograms illustrated by lantern slides, and practice by the student with unknown records.

As group and individual instruction will be given, the course is open to both the beginning and advanced student in Electrocardiography.

For further information address Michael Reese Hospital, Cardiovascular Department, 29th and Ellis Ave., Chicago, Illinois.

The next basic science examination will be given May 5,-6, 1942, University College of Medicine, Omaha, Nebraska.

The next medical examination will be given June 8, 9, 10, 1942, University College of Medicine, Omaha, Nebraska.

All applications for these examinations must be filed with the Bureau of Examining Boards, State Capitol Building, Lincoln, Nebraska, at least fifteen days prior to said date.

NEWS and VIEWS

The new Benthack hospital opened recently in Wayne with "open house" on Easter Sunday. More than a thousand visitors inspected the new building and equipment. In an editorial the Wayne News says in part, "The new hospital represents an important stride in the history of Wayne. It is a hospital of which a city many times the size of Wayne may well be proud. Dr. Walter Benthack has demonstrated his faith in the future not only of Wayne but also of northeast Nebraska in constructing and equipping this completely modern hospital." The Journal too, congratulates Dr. Benthack and wishes him success in this important undertaking.

According to a press report the Union Pacific railroad last year spent approximately $1,700,000 in supplying medical facilities for its employees.

Scotts Bluff county has organized a health council. Dr. A. L. Cooper is president.

According to reports by Dr. Miller, director of the State Health Department, the U. S. Public Health Service has approved $165,000 for a state-wide defense program in Nebraska. Most of this appropriation will be spent in connection with the venereal diseases program and will be concentrated in the defense areas of the state.

Several members of the Nebraska State Medical Association participated in the program of the Second American Congress on Obstetrics and Gynecology held in St. Louis, Missouri, from April 6th to 10th, inclusive. Dr. Earl Sage presided at a panel on the "Physiology of Blood Coagulation and Hemostasis." Personal consultations on various problems were participated in by Drs. Sage, Harley Anderson and Charles Moon. Dr. Willis E. Brown had a scientific exhibit on endocrinology.

OFFICE OF CIVILIAN DEFENSE

Washington, D. C.

The Medical Division of the Office of Civilian Defense wishes to bring the following information to the attention of the medical profession:

Decontamination of Eyes After Exposure to Lewisite and Mustard

Since publication of the Office of Civilian Defense handbooks, "First Aid in the Prevention and Treatment of Chemical Casualties" and "Protection Against Gas," further experience has shown that the 2% solution of hydrogen peroxide recommended for the treatment of eyes following Lewisite burns may be injurious if used undiluted. The Chemical Warfare Service now recommends a single instillation in the eyes of a 0.5% solution of hydrogen peroxide as soon as possible after contamination with Lewisite. This solution may be prepared by diluting one part of a 2% solution with three parts of water, or one part of a 3% solution with five parts of water. The solution usually found in drug stores is the U. S. P. strength of 2.5 to 3.5 per cent hydrogen peroxide. A 0.5% solution of potassium permanganate has also been found effective as an eye instillation following exposure to Lewisite.

In planning decontamination stations, the Medical Division, Office of Civilian Defense, recommends that provision be made near the entrance of the second or shower room for the irrigation of the eyes of contaminated persons. The schematic sketch of a decontamination station in the Office of Civilian Defense publications mentioned above shows the irrigation of eyes in the dressing room, whereas this should be carried out in the second or shower room before the bath is given. Delay until the casualty reaches the dressing room will result in more serious injury to eyes which have been contaminated with mustard or Lewisite.

"Although vegetarianism has been extolled and meat criticised in the past, human experience through history has shown meat to be a valuable food," Doris W. McCray, Cedar Rapids, Iowa, says in a recent issue of Hygeia, The Health Magazine. "The composition of meat is more nearly like the proteins found in the human body than are the proteins of nuts and beans. Meat is a more complete protein to furnish the material from which to build the human tissues. Meat is nutritionally economical, it is practical and it certainly appeals to the taste. For the normal person, it is highly recommended. A vegetarian diet is greatly improved by the addition of eggs and dairy products, but it cannot equal the normal diet that includes meat."

WOMAN'S AUXILIARY

President—Mrs. M. C. Green
2412 No. 53rd Street, Omaha, Nebr.
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Treasurer—Mrs. Harry Flansburg
Lincoln, Nebr.
Publicity Chairman—Mrs. W. H. Morrison
513 No. 41st Ave., Omaha, Nebr.

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

THE ANNUAL MEETING OF THE WOMAN'S AUXILIARY OF THE NEBRASKA STATE MEDICAL ASSOCIATION

PROGRAM

Monday, May 4

Registration Headquarters—Hotel Fontenelle

Tuesday, May 5

Mrs. M. C. Green, Presiding

10:00 A. M. Executive Session, Parlor A and B, Hotel Fontenelle

12:30 P. M. Informal Luncheon----Hotel Fontenelle
Tickets available at Headquarters, 85c

3:00 P. M. Tea----------------Mrs. L. D. McGuire
426 North 38th
Pipe Organ Recital

Wednesday, May 6

9:00 A. M. Annual Business Meeting, Parlor A and B, Hotel Fontenelle. Mrs. M. C. Green, presiding.

1:00 P. M. Luncheon, Black Mirror Room, Hotel Fontenelle.

Address—"War and Tuberculosis," Benjamin Goldberg, Chicago, Illinois

Style Show, (Courtesy of Herzberg's). Tickets available at Headquarters, $1.00. Early reservations appreciated.

7:00 P. M. Banquet--------------Hotel Fontenelle
Nebraska State Medical Association

Thursday, May 7

9:30 A. M. Executive Session, Parlor A and B, Hotel Fontenelle. President, presiding.

11:00 A. M. Trip to Boys Town.

Dutch Treat Luncheon------------Hotel Fontenelle

Mrs. Glenn D. Whitcomb has been elected president of the auxiliary to the Douglas County Medical society, succeeding Mrs. L. A. De Lanney.

Holding the office of president-elect will be Mrs. Howard Morrison. Mrs. Oliver Nickum will serve as vice president; Mrs. G. Alexander Young, Jr., as secretary, and Mrs. Maurice Grier, as treasurer.

The Richardson County Medical society and its auxiliary met at Hotel Weaver Wednesday evening for a dinner party.

Following the dinner, the auxiliary members went to the home of Mrs. H. R. Miner where the evening hours were spent socially.

The Woman's Auxiliary of the Adams County Medical Association met at Ingleside, Nebraska, April 1, for a joint dinner with the doctors. At a separate business meeting afterwards, Mrs. C. E. Abbott presided. The president announced that this meeting was the last of the year, except, for a luncheon to be held at Mrs. A. O. Kostal's home in June.

Mrs. R. R. Damerell, Red Cross Publicity chairman spoke on the subject "What the Red Cross is doing in Defense Work."

Last call for reservations for the Twentieth Annual Convention of the Woman's Auxiliary to the American Medical Association, which will be held at Haddon Hall, Atlantic City, New Jersey, June 8-12.

Atlantic City extends a hearty welcome to you.

MATERNAL AND CHILD HEALTH SERVICES

Defensive and Offensive Approach

Roland H. Loder, M. D.
Dir., Div. of MCH

The goal of medical men and Public Health Officials in the field of Maternal and Child Health is the development of a program in Nebraska for the preservation of maternal, infant and child lives in Nebraska and for promulgating state-wide activities which will effectively encourage individual healthful practices in achieving competent, effective curative and preventive medical care during life periods. In September, 1936, the Division of Maternal and Child Health, State Department of Health was inaugurated with a view to aiding the medical profession in fostering this development in our state. A study of the accompanying chart indicates drastic reduction in mortality incidences in the maternal and infant cycle: Maternal from 146 in 1930 to 53 in 1941; sepsis from 65 to 10 or less in the same period; puerperal sepsis was the first cause for all periods prior to 1935 but it is now relegated to 7th and 8th place each year. Infant Mortality decreased from 1,331 to 789 in the same period Premature births claimed about one-third of infant lives under 1 year of age. Our greatest problem still lies in the first week and first month of life. In developing our forces for an intelligent strategy, several activities have been inaugurated within the MCH Division of the State Department of Health for achieving the goal.

MATERNAL—INFANT MORTALITY
Nebraska

Year	Total	Sepsis	Embolus Phleg. Albo Dolens	Tox-emia	Acc'dts. of Preg.	Abor-tion	Ectopic	Other	Hemr'rg.	Other Acci-dents	Cae-sar-ian	Other Surg. Inst'm. Dels.	Other
1921	200	77	8	54	4	5	7	3	18	1	7	0	16
1930	146	65	10	31	0	5	8	0	19	0	8	0	1
1940	72	10	9	12	0	19	3	0	8	0	2	7	2
1941	53												

Year	Total	Prem. births	Cong. Malf.	Broncho Pneumonia	Inj. at birth	Con'g. debility	Icterus Sclerema Atelectosis	Diarrhea and Enterites	Other
1921	1893	514	212	---	39	216	--	--	---
1930	1331	435	160	119	128	42	73	84	295
1940	789	303	57	56	65	26	--	20	259

Vital Statistics Studies on maternal and infant mortality, communicable and other disease morbidity in children and infants is a chief tool for obtaining our objective.

Educational Activities have proven very effective in the medical field. Since February, 1937, there has been a continual state-wide program of postgraduate effort resulting in about 3,000 medical men registered and a total medical attendance of over 4,800 during this period have reached a very large audience. The Department of Health has constantly stressed the educational phase of its activities through state and local medical, sanitary and nursing personnel since August, 1941, through the Division of Health Education. The chief contributions of the latter division have been:

a. Development of an official Health Department Bulletin, issued about every two months.

b. The 1942 Health Almanac with technical consultation of state staff medical men, nurses and engineers, and finally the development of educational methods and materials.

c. The Health-Mobile, much more of which we shall know as time progresses.

d. There is now being developed press and radio educational material.

Throughout this campaign the department has stressed the importance of the private physician as the first line of defense against hazards in maternity, infancy, and communicable disease. Slide talks, movies, radio, press and pamphlets have all been used in the program to advantage.

An activity having professional and lay educational value, but likewise practice from a service angle is the supply of the thermostatically controlled, heated infant incubater, one of which is placed in each county of the state. Of 587 prematures cared for in the incubator, 346 or 68.24% have survived, a percentage survival well above the average in prematures which receive less care.

A primarily scientific educational program is the MCH teaching unit, University of Nebraska Medical School. Here an obstetrician, pediatrician and a special medical laboratory director serve the medical school in the respective departments of the hospital in intramural and undergraduate teaching of obstetrics and pediatrics, and in intramural and extramural postgraduate teaching for practicing physicians. It seems probable now they may also serve in developing well-child health conference centers in areas deemed necessary by the MCH committee. They also supervise proper standards for extension of prenatal, postpartum and infant care programs as recently permitted by the action of the councillors meeting at request of MCH committee and other medical men in the state. The medical men of Nebraska find increasing value in the services of this staff in a consultant capacity for laboratory tests and differential diagnosis on endocrine problem cases and at postgraduate courses in obstetric and pediatric problems. Scientific research in fields of obstetrics and pediatrics is becoming an increasing portion of their activity, giving Nebraska medical men accurate information on useful therapeutic and diagnostic procedures and materials.

Public Health organization in local areas, while not a primary function of the Division of Maternal and Child Health, nevertheless concerns us greatly in that much of the local services are supplied by public health nurses and the funds for this work are provided in good part from MCH budgets. The public health nurse can do a great deal in urging families to consult the family physician for proper care, and moreover, to interpret and demonstrate to the patient procedures the physician has asked the patient to follow while under medical observation.

Organization work is enhanced greatly in Nebraska now that we have a full time State Director of Communicable Diseases and Local Health Services.

In local health work the sanitarium aids nurses in interpretation of sanitary measures to families. The medical health officer, as director, correlates the unit activities in relation to local health authorities, civic bodies and medical profession.

The Nutrition Division is now being inaugurated as an outgrowth of the MCH activities as permitted through authorization of the MCH committee last May. A director has been appointed, her function is to correlate the activities of various nutrition agencies in the state and obtain better utilization of foods locally available.

Disease prevention, through a state-wide vaccination-immunization program as authorized by the medical economics committee, February, 1941, promises to be timely in view of the present emergency. Biologics for diphtheria and smallpox are supplied by the State Department of Health. As greater emergencies arise perhaps vaccine for typhoid fever may be furnished in the Defense areas. We shall have to protect our infants, pre-school and school children as well as adults from the dangers arising out of influx of large population groups in industrial defense activities in Nebraska. Our goal for May 1st, Child Health Day—"Every infant, pre-school and school child protected against diphtheria and smallpox." We urge adult smallpox vaccination also. These community-wide projects organized and sponsored by school and county authorities and large civic groups aided by public health personnel with the administration of the vaccines by medical men, will naturally increase state-wide interest in preventive measures.

The Tuberculosis Survey previously under the State Medical Association, is now sponsored by the State Health Department in cooperation with State T. B. Association and State Medical Association. The clinical procedures are conducted by the local medical men, this is another vital interest of MCH because in testing school children of high school age primarily, and even lower grades in special cases, much better case findings will result. Soon a portable 4-5 x-ray unit will be with the Health-mobile. This will aid local physicians and local communities to do a rapid survey and screening where desired.

Maternity Homes and Hospitals. The licensing and inspection of maternity homes and hospitals is now a joint responsibility of the department of Health and the Division of Child Welfare with licensing decision resting on the Department of Health. In the near future, local medical societies may be called upon to render inspection aid to the Division of Maternal and Child Health.

Close consultant relationships between the Director of Health, the Director of Division of Maternal and Child Health and its MCH Committee; the Medical Advisor of Child Welfare and the Child Welfare Division Director will tend to develop a sensible and improved group of rules and regulations based upon present statutes. However, since the statute is not particularly specific in language regarding enforcement of these laws, rules and regulations, intelligent support of the medical profession in Nebraska is earnestly sought to improve this phase of maternity care.

Since the present emergency may take numerous medical men from various Nebraska areas it is well for us to lay careful groundwork for maternal, infant and childhood protection to prevent the possible increase in mortality rates. Generous response of the medical profession has helped to reduce the maternal deaths to 53, infant deaths below 800, and communicable disease morbidity and mortality to the lowest rate in the history of Nebraska. This help is much appreciated by the Division of Maternal and Child Health.

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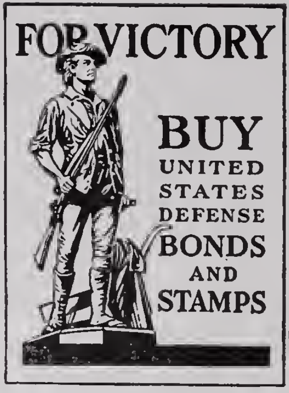
1. Records—Division, Vital Statistics, Nebraska Department of Health.

2. Nebraska State Medical Journal, Vol. 25, No. 3, p. 86, March, 1940, Mat. Mort. in Nebraska.

3. Nebraska State Medical Journal, Vol. 25, No. 5, p. 172-177, May, 1940, Infant Mortality, Premature Infant Mortality.



We have been at war for more than four months. This is only the beginning. We cannot move rapidly from defensive to offensive fighting without adequate tools of war. These we must and will have. The president has set the production goals. For planes—the number is 60,000 for 1942 and 125,000 for 1943. For tanks, ships, and guns there are similar increases.

To provide the money, the sinews of war, we as Americans must draw upon all our financial resources. The bill this year is more than sixty billion dollars. Next year the cost may be even higher. But we must remember that no matter how great the cost—our American way of life, our professional and personal ideals are at stake. Our freedom is worth any price.

We will pay increased taxes, it is true. The president's proposed program for the fiscal year, 1943, calls for approximately nine billion dollars in new taxes. But increased tax revenues will not meet the annual costs of war. A part of the money will be secured from banks and other lending agencies, but such borrowing expands the credit structure and contributes to inflation.

In large part, the money must be secured by borrowing directly from the people through the Defense Savings Program. This is the people's investment program as well as the nation's war finance program. Not only do the Defense Bond dollars buy material and equipment for the armed forces. The Bonds and Stamps represent financial reserves for individuals. The Stamps are negotiable. Any Bond can be redeemed after sixty days from the date of issue. While building toward individual security, we help control prices now. Money invested in Defense Savings is withdrawn from consumer purchasing power which helps to curb inflation.

Defense Stamps cost from 10c to $5.00. They do not pay interest, but when the equivalent of the purchase price of a bond has been invested in them, they can be turned in for one of the registered, interest-bearing securities.

The Series E Bonds are the "People's Bonds." These may be bought only by individuals, and can be obtained at any post office and almost any bank. The People's Bonds are appreciation bonds which cost 75 per cent of their face value and the government pays back the full face value amounts at the end of ten years. The smallest Series E Bond costs $18.75 and pays $25 at maturity; the largest costs $750 and pays $1,000. The 33⅓ per cent increase is equivalent to an annual return of 2.9 per cent upon the investment. Bonds of this series may be registered in the names of one or two persons or in the name of one person with a second listed as beneficiary.

The F and G Bonds are largely for associations, corporations, and other large investors. The Bonds of Series F are purchased for 74 per cent of their face value. At the end of their 12-year maturity period they provide a return equivalent to an annual interest rate of 2.53 per cent. The smallest series F Bond of $25 costs $18.50; the largest, the $10,000 Bond, costs $7,400.

Series G Bonds are intended for those who wish to receive a current income from their investment. They are issued at par in denominations from $100 to $1,000. G Bonds mature in 12 years and interest is paid semi-annually at the rate of 2½ per cent throughout their maturity period. Although bonds of Series F and G are issued only by Federal Reserve Banks and the Treasury Department, commercial banks generally will handle applications for them.

Our dollars invested in Defense Bonds and Stamps provide munitions and equipment for those on the fighting fronts. In addition to our own service to armed and civilian forces on the home front, we must help keep the Nation's war chest filled. Only a united nation fighting an all-out war can go forward to Victory.

BOOK REVIEW

Roentgen Treatment of Infections, by James F. Kelly, M. D., F. A. C. R., Professor and Director of the Department of Radiology, Creighton University School of Medicine; Attending Radiologist, Creighton Memorial St. Joseph's Hospital, St. Catherine's Hospital and Douglas County Hospital, Omaha, and Mercy Hospital, Council Bluffs, Iowa, with the collaboration of D. Arnold Dowell, M. D., Assistant Professor of Radiology, Creighton University School of Medicine; Assistant Attending Radiologist, Creighton Memorial St. Joseph's Hospital and Douglas County Hospital, Omaha, and Mercy Hospital, Council Bluffs, Iowa.

This book is a valuable contribution to contemporary medical literature. It covers a field heretofore inadequately reported by scant papers and monographic reports. Dermatology and oncology have been liberally supplied with research and clinical data but no one has written, heretofore, a book on the beneficience of roentgen therapy in the vast field of infections, more particularly the devastating disease of the gas bacillus type. The book fills a need for the completion of the foundation upon which roentgen therapy now rests. There is abundance of clinical research and the scientific approach is unique and admirable. Dr. Kelly approaches the clinical side with a few brief chapters on the basic sciences, especially in physics, by explaining in simple and interesting language what has heretofore been difficult for others except the specialists to understand. He strives always in the spirit of a true teacher, to make plain the fundamentals so that others beside himself may understand.

Since the treatment is carried out in the lower range of voltage, the equipment is always available wherever modern medical practice exists. It requires only a carefully calibrated "x-ray machine," and a thorough knowledge of these basic principles which Dr. Kelly has laid down. His description of the clinical aspects provides a working experience also for the average clinician, if he has these other attributes of preparation. Treatment may be carried on in army hospitals, on navy ships, in far away places, as well as in our own hospitals at home and in rural communities. In other words, the equipment and the knowledge is at hand to treat most of these lesions wherever they may be found.

With the recent advances in chemotherapy, this method is not in conflict. One must know both methods of producing immunity and choose the one that will restore the patient to health most quickly. Chemotherapy has as yet conquered only a portion of the many types of infection.

Of course the outstanding part of the book relates to his monumental work on gas gangrene infection. It is a record of the laborious years in which he gathered reports from others, carefully correlated his own case reports and delved into the researches of the more scientific side. He has weighed his words and tempered his conclusions under the hot fire of criticism which he has met in the open forum before many regional and national medical societies. Old conservatives, especially if buttressed by university or foundation staffs, often yield grudgingly to the force of reason and new clinical information. The advent of the book should assure one that this crisis is past, no matter what further advances are to be expected.

The family of gas-forming organisms is large and widely distributed. Heretofore the mortality from these infections has been calamitous. Dr. Kelly has proved by preponderance of evidence, the efficacy of roentgen therapy in gas infections when carefully and scientifically applied.

Other infections such as peritonitis, acute conditions in the abdomen, pneumonia, superficial wounds, parotitis, mastoiditis and a score of others are adequately reported. Roentgen treatment of infections is now the daily routine in all hospitals and clinics.

DEATHS

Newell, Dr. Charles H., Omaha, was born in 1882, graduated from the Creighton Medical School in 1908. For many years he was associated with the late Dr. A. P. Condon, Nicholas Senn Hospital in Omaha.

Dr. Newell was widely known throughout this area and was always active in civic and professional affairs. For several years he served on the Council of the Omaha-Douglas County Medical Society, and then served on the Board of Censors.

At the time of his death, Dr. Newell was a lecturer in Surgery at the Creighton Medical School. Besides belonging to the County, State, and American Medical Association he was also a member of the Elks and Masonic Orders.

He died April 2, 1942, while on the way to make a professional call.

Surviving are his wife, two daughters, a son, and his mother.

Walker, Dr. Wm. H., born in 1870, graduated from the Creighton Medical School in 1901. He practiced in Omaha from the time of his graduation until his death on April 14, 1942.

He is survived by his wife, and one son.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The regular meeting of the **Lancaster County Medical Society** was held on March 17, 1942, with forty-three members present. Dr. B. A. Finkle, president, in the chair. The minutes of the last meeting stood approved as read.

Dr. John C. Thompson presented the first paper on "Circulatory Failure" which was a discussion of heart failure from a dynamic standpoint. He spoke of the peripheral circulation and its many variable factors. Failure of the right and left heart was explained from a new viewpoint. This paper discussed by Drs. G. W. Covey, Marshall Neely and F. L. Rogers.

"Aspiration Pneumonia" was the title of a paper given by Dr. George W. Covey. He has found this condition mostly in infants, very young children, and the aged. Most of the work in this subject has been done since 1925. It has been demonstrated that the vegetable oils are much less irritating to the lungs than the animal oils. The lung appears to have a bronchial pneumonia. In reporting two of his own cases, with x-ray films from the beginning to the present time, Dr. Covey stated most cases clear up remarkably after the use of the oil is discontinued. Discussion followed by Drs. H. E. Flansburg, F. L. Rogers, O. A. Reinhard, R. J. Stein, J. C. Thompson, Marshall Neely, J. J. Hompes, E. B. Brooks, and H. Zinnemann.

The chair appointed the following committee to cooperate and act as an advisory capacity with the Y. M. C. A. in their health program: Dr. E. B. Brooks, chairman; E. S. Wagner and F. A. Alcorn.

Drs. Clayton Andrews and E. W. Rowe discussed the probable raise in renewal fees from $1.00 to $3.00 to $5.00 for the investigation of all violations of the present Medical Practice Act. This matter was tabled for the present time.

Meeting adjourned 9:55 p. m.

Platte-Loup Medical Society held its meeting on March 18th in Columbus in the Hotel Thurston, dinner at 6:30 p. m., 25 physicians attending. Scientific program consisted of a discussion of "Fractures" led by Dr. J. E. M. Thomson and Fritz Teal both of Lincoln.

Tri-County Medical Society met at St. Francis hospital in Grand Island, March 27th. Scientific program consisted of a discussion on "Constitutional Approach to Arthritis" by Dr. G. A. Young, Jr., of Omaha.

The Sixth Councilor District Medical Society met Monday, April 20, 1942, in the McCloud Hotel at York for the entire day. This was a post-graduate day with the following program: (1) "Medical Complications of Obstetrics" by Dr. Kretzschmar and (2) "Immunization Against Infectious Diseases" by Dr. H. Towsley. Both speakers are from the faculty of the University of Michigan. They were sponsored by M. C. H. division of the state department of health.

The regular meeting of the **Adams County Medical Society** was held at the Hastings State Hospital on Wednesday, April 1, 1942, at 6:30 p. m. for dinner and the program.

An after-dinner speech was given by Mr. Ray Thompson, secretary of the Hastings Chamber of Commerce. He stated that the Hastings Chamber of Commerce was first organized in 1878, four years after Hastings became a city. It was then known as the "Civic Club." He discussed the workings of the Chamber of Commerce.

Minutes of the last meeting were read and approved. Vice President E. J. Latta presided at the meeting.

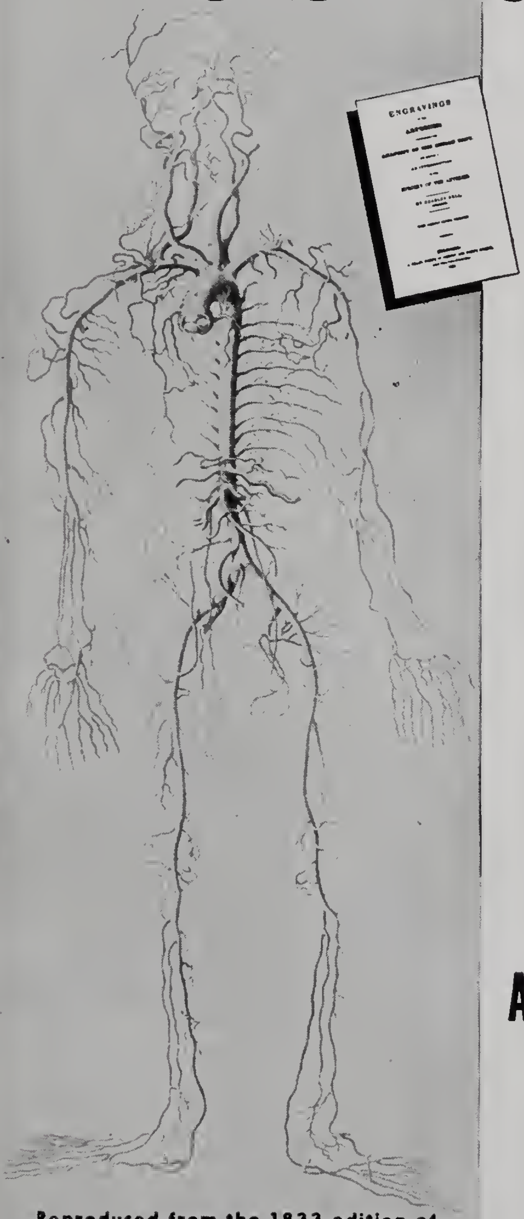
The speaker of the evening was Dr. Donald Kingsly of Hastings. His subject was "Problems in Aviation Medicine." He particularly stressed the more common defects involving vision and hearing, also diseases of the cardiovascular system. He stated that people afflicted with neuropsychiatric disorders make poor risks as aviators.

The spring meeting of the **Third Councilor District** of the Nebraska State Medical Association was held at the Paddock Hotel in Beatrice, Nebraska, Thursday, March 26, 1942.

(Continued on Page xix)

vasoconstrictor *hemostatic*
circulatory stimulant *resuscitant*

THE HORMONE THAT DOCTORS FORGET IS A HORMONE



Reproduced from the 1833 edition of "Anatomy of the Human Body" as drawn by the master artist-anatomist and surgeon, Sir Charles Bell. He depicts the "Scheme of the Arteriol System."

Although Adrenalin* was the first hormone to be isolated in pure form, it is seldom used to relieve hormone deficiency. Its many common and important uses based on its characteristic actions—as a vasoconstrictor, circulatory stimulant, and hemostatic—have tended to obscure its endocrine origin.

Injected hypodermically, Adrenalin is one of the best and probably the most widely used of agents for rapid relief from asthmatic paroxysms. Applied locally, it is of value in hemorrhage of accessible mucous membrane areas . . . Adrenalin (Epinephrine U.S.P.) finds favor in the prevention and treatment of allergic reactions due to injection of biologicals or arsenicals.

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TECHNICAL EXHIBITS

Nebraska State Medical Association Annual Assembly

May 4, 5, 6, 7, 1942

AMERICAN HOSPITAL SUPPLY CORP., Chicago, Illinois—Booth No. 10: Will demonstrate a new and widely adopted Baxter plasma and serum preparation technique, using centrifugation method, as well as a new and simplified method for blood banking, and the preparation of dilute plasma by sedimentation. Many newly developed Tomac products will be on display.

THE BORDEN COMPANY, New York, N. Y.—Booth No. 31: For all the news about Borden's scientifically designed infant foods, visit this booth. BIOLAC (liquid modified milk) fully satisfies all nutritional requirements of early infancy except vitamin C. NEW IMPROVED DRYCO (with quicker solubility and increased potencies of vitamins A and D) offers maximum formula flexibility to meet varying nutritional needs. MULL-SOY is an exceptionally palatable and readily digestible emulsified food for infants allergic to milk. Other outstanding infant foods include Beta Lactose, Klim, Merrell-Soule Powdered Milks, and Borden's Irradiated Evaporated Milk.

CAMEL CIGARETTES, Winston Salem, N. C.—Booths Nos. 29 and 30: Will exhibit large detailed photographs of equipment used in comparative tests of the five largest-selling brands of cigarettes. These tests proved that Camels burn slower and contain less nicotine in the smoke than other cigarettes. Representatives will be available to discuss this research.

DONLEY-STAHL COMPANY, Lincoln, Nebraska—Booth No. 14: Will exhibit a general line of physicians supplies—featuring Birtcher Shortwave outfits and Beck Lee Electro-Cardigraphs. Pay us a call.

C. B. FLEET and COMPANY, Lynchburg, Va.—Booth No. 27: Phospho-Soda (Fleet) has been an ethical product for over half a century. It is highly concerntrated, purified, aqueous solution of the two U. S. P. sodium phosphates in stable form. It is non-toxic, rapid but mild in action ,without irritation of the gastric or intestinal mucosa. It is indicated in hepatic and gallbladder dysfunctions, and when a thorough eliminating and cleaning action is desired on the upper and lower gut.

GREB X-RAY CORP., Kansas City, Mo.—Booth No. 19: The Picker-Waite "Century" model X-Ray Unit has become the "best seller" in the industry. More compact, more flexible, with features usually found only in high priced equipment, you can not afford to buy any x-ray until first looking over this unit. See it displayed for the first time in Nebraska. You will want it, and you will buy it,—if you will only take the trouble to compare it.

HARROWER LABORATORY, INC., Glendale, Calif.—Booth No. 9: Will, as usual, be represented by their Mr. D. E. Reck, and Mr. Reck will anticipate meeting his physician friends at the Harrower booth. Their usual quality products will be on display and any questions pertaining to them will gladly be answered by Mr. Reck.

HOLLAND-RANTOS COMPANY, INC., New York, N. Y.—Booth No. 32: Modern Contraceptive Technique will be graphically illustrated with a motion picture, and all the various contraceptive materials including both the Koromex and Hyva diaphragms, Koromex jelly and H-R Emulsion cream, together with the most complete line of contraceptive specialties, will be demonstrated at the booth of the Holland-Rantos Company. Be sure to call for samples and literature. Displayed, also, will be the new Rantex Surgical Masks and Caps, now being used by hospitals all over the country. They represent an outstanding development.

KELLEY-KOETT MFG. CO., INC., Omaha, Nebraska—Booth No. 35: One of the most important x-ray advances of many years, The Multicron Control, will be demonstrated. The Multicron is incorporated in the Keleket W-3-100 Combination Unit and is designed to take care of troublesome details automatically, leaving the doctor free to concentrate on the important factors of technique. It also assures work of uniformly high quality. The W-3-100 is a complete Combination Unit with Generator, Tube Stand and Table. It permits Radiography and Fluoroscopy at all angles from Trendelenberg to vertical. It is equipped with Bucky Diaphragm, motor tilt table, stereoscopic shift, etc. The Keleket Booth will be under the direction of Mr. G. E Geise, Vice President. Don't fail to see it.

LEDERLE LABS., INC., Kansas City, Mo.—Booth No. 16: Will feature an outstanding selection of their pharmaceutical and biological products; the Sulfonamides, stressing Sulfadiazine—the latest and most magical of all the Sulfa drugs; their Vitamin B. Complex preparation; Vi-Delta Vitamin line of Lederle products, to which standard group have been added the Multi-Vitamins which contain A, B Complex, C and D, and the convenient measured dose "Clipsules", each one of which gives the required potency of A and D Vitamins in an easy to handle method to infants. Biologicals: new laboratory, reagent. Blood Grouping Sera (part of every U. S. Soldier's identification tag); Immune Globulin for measles; Scarlet Fever products. The exhibit will be under the direct supervision of Robert F. Moss and there will be staff attendants on hand to answer questions and to provide samples and literature on request.

ELI LILLY and COMPANY, Indianapolis, Indiana—Booth No. 1: The Lilly exhibit is evidence of the interest of Eli Lilly and Company in the Nebraska State Medical Association. Their products both old and new will be on display and representatives will be present to serve physicians in every possible way.

LUZIER'S, INC., Kansas City, Mo.—Booth No. 33: Will exhibit Luzier's Fine Cosmetics and Perfumes. These preparations are selected to suit the individual's cosmetic requirements and preferences. In specific cases where there is a history or suspicion of allergy raw materials may be obtained for patch-testing. The formulary and information concerning products supplied by manufacturer. Mr. Burbridge, Divisional Distributor of these preparations and persons associated with the sale of them in the State of Nebraska will be on hand to answer your questions.

M and R DIETETICS LABS., INC., Columbus, Ohio—Booth No. 2: Will display Similac, a food for infants deprived partially or entirely of breast milk; also powdered SofKurd. Their representative, Mr. B. C. Palmer, will appreciate the opportunity to discuss the merit and suggested application of these products.

MEAD JOHNSON and COMPANY, Evansville, Indiana—Booth No. 13: "Servamus Fidem" means We Are Keeping Faith. Almost every physician thinks of Mead Johnson and Company as the maker of Dextri-Maltose, Pablum, Oleum Percomorphum, and other infant diet materials. But not all physicians are aware of the many helpful services this progressive company offers physicians. A visit to this booth will be time well spent.

THE MENNEN COMPANY, Newark, N. J.—Booth No. 3: Will exhibit their two baby products—Antiseptic Oil and Antiseptic Borated Powder. The Antiseptic Oil is now being used routinely by more than 90% of the hospitals that are important in maternity work. Be sure to register at the Mennen exhibit and receive your kit containing demonstration sizes of their shaving and after-shave products; also for the lucky number prize drawing to be held at the close of the Convention for DeLuxe Fitted Leather Toilet Kits.

MIDWEST PROFESSIONAL DISTRIBUTING COMPANY, Lincoln, Nebraska—Booth No. 24: Will display E. J. Rose Physiotherapy equipment and Universal X-Rays. Doctors are invited to compare the distinctive values of Rose S. W. Diothermys and U. V. Lamps. Portable x-rays will be featured, and we urge the doctors not to pass up this item, that so many have found answers all their x-ray needs. You will be welcomed by Mr. Dan Brobst.

PHILIP MORRIS and COMPANY, INC., New York, N. Y.—Booth No. 20: Will demonstrate the method by which it was found that Philip Morris cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than other cigarettes. Their representative will be happy to discuss researches on this subject, and problems on the physiological effects of smoking.

THE C. V. MOSBY COMPANY, St Louis, Mo.—Booth No. 34: Visitors to the Nebraska Annual Assembly are cordially invited to visit our booth, where we will display the new Tassman "Eye Manifestations of Internal Diseases," Kilduffe-DeBakey "The Blood Bank and the Technique and Therapeutics of Transfusions," Dieckmann "Toxemias of Pregnancy," Blair "Cancer of the Face and Mouth," as well as many other new books and new editions of interest and importance.

NESTLE'S MILK PRODUCTS, INC., New York, N. Y.—Booth No. 21: Will feature Lactogen, which has given successful results in infant feeding for more than fifteen years. Physicians are cordially invited to visit the Nestle's exhibit where Mr. C. E. Burtis will be in charge.

ORTHO PRODUCTS CO., INC., Linden, N. J.—Booth No. 15: Physicians attending the Annual Assembly of the Nebraska State Medical Association are all cordially invited to visit the Ortho Products exhibit, where our representatives will be glad to give any information on Ortho-Gynol, Ortho-Creme and Ortho Diaphragms.

PETROGALAR LABS., INC., Chicago, Illinois—Booth No. 12: Will offer, in addition to samples of the Five Types of Petrogalar, an interesting selection of descriptive literature and anatomical charts. Ask our representative, Mr. H. L. Shelton, to show you the HABIT TIME booklet. It is a welcome aid for teaching bowel regularity to your patients.

PHEBUS SURGICAL COMPANY, Omaha Nebraska—Booth No. 11: Distributors of quality physician's supplies; will exhibit many new and valuable items of interest in this emergency. We will welcome your visit or inquiries, especially in any of the following services: Blood and Plasma Banking, Burn Treatment, Support, and Splints, Sterile Intravenous Administration Sets, Laboratory Solutions and Supplies, Surgical Instruments, Diagnostic Equipment.

RITTER EQUIPMENT CO., INC., Rochester, N. Y.—Booth No. 17: Will display their complete line of specialist equipment, including their flourescent lights and air compression outfits, mobile x-ray unit.

W. B. SAUNDERS CO., Philadelphia, Pa.—Booth No. 8: Will have on display a complete line of their books. Of particular interest will be such new books as "Surgical Practice of the

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Consultant in Dermatology

Onis Geo. Hazel, D.S., M.D.
Consultant in Dermatology

O. Alton Watson, B.S., M.D., F.A.C.S.
Consultant in Otolaryngology

Lahey Clinic," Steinbrocker's "Arthritis," Johnstone's "Occupational Diseases," 1942 Mayo Clinic Volume, Walters, Gray and Priestley's "Gastric Cancer," Kolmer and Tuft's "Clinical Immunology, Biotherapy and Chemotherapy," Duncan's "Diseases of Metabolism," Maxillofacial Surgery (in the Military Surgical Manual series), Rehfuss' "Indigestion," new editions of Beckman's "Treatment," Christopher's "Surgery," Sollmann's "Pharmacology," and many other important books.

SEILER SURGICAL COMPANY, Omaha, Nebraska—Booth No. 22: We extend our hearty welcome to members and visitors of the Nebraska State Medical Association and invite all to visit our booth. One of our outstanding features of the display this year will be new items in the pharmaceutical line of our manufacture. We also extend an invitation to visit our store—one block from the hotel—where a greater variety may be seen.

SHARP AND DOHME, Philadelphia, Pa.—Booth No. 6: Will have a striking new modern display featuring "Lyovac" Normal Human Plasma, other "Lyovac" biologicals and biogolical specialties. There will also be on display a group of pharmaceutical specialties, such as the new Liquid "Digitol" and Tablets "Digitol," which are clinically standardized in humans, "Delvinal" Sodium, "Propadrine" Hydochloride products, "Rabellon," "Riona," "Depropanex," and "Prohexinol." Capable well-informed representatives will be on hand to welcome all visitors and furnish information on our products.

SMITH-DORSEY COMPANY, Lincoln, Nebraska—Booth No. 23: Will show a full line of pharmaceutical specialties, including recent Vitamin and Hormone advances, as well as a full line of ampoule medicators. Many new council accepted products will also be shown.

SMITH, KLINE AND FRENCH LABS., Philadelphia, Pa.—Booth No. 25: We again welcome the opportunity of displaying our products, including Benzedrine Inhaler, Benzedrine Sulfate Tablets, Paredrine Aqueous and Pentnucleotide to the members of the Association. Our representative will be only too glad to discuss the products exhibited and to answer any questions that may arise concerning them.

WESTINGHOUSE ELECTRIC AND MFG. CO., Omaha, Nebraska—Booth No. 7: Will exhibit their shock-proof, combination portable, and mobile, x-ray unit.

JOHN WYETH AND BROTHER, Philadelphia, Pa.—Booth No. 26: You are cordially invited to visit our booth where we will exhibit our new HEMO-GUIDE, an aid in hemotologic diagnosis. The following specialties will also be displayed: Amphojel; B-Plex Elixir, the vitamin B complex elixir; Bepron, Wyeth's Beef Liver with Iron; and Kaomagma.

BOOKS RECEIVED

Wounds and Fractures, a Clinical Guide to Civil and Military Practice by H. Winnett Orr, Lincoln, Nebr., M. D. F. A. C. S., Chief Surgeon, Nebraska Orthopedic Hospital, Fellow of the American College of Surgeons; Members of the International Society of Orthopaedic Surgery; of the American Orthopaedic Association; of the American Academy of Orthopaedic Surgeons. Published in 1941 by Charles C. Thomas, Springfield, Ill., 227 pages, price $5.00, postpaid.

In this book Dr. Orr discusses wounds and fractures from the practical standpoint, dividing the discussion into nine main chapters. The subject matter is treated as follows:

Chapter I contains a discussion of the principles upon which treatment of fractures must be based in order to obtain maximum function and healing. Chapter II is somewhat more technical involving as it does the operative treatment of fractures. In the third chapter there is a discussion of the treatment of nonunion and malunion. Chapter IV includes a dissertation on compound fractures with infection, in which the author incorporates his ideas and experiences in the care of such fractures. Chapters V and VI deal with fractures involving the joints and also nerve injuries. The seventh chapter deals with fractures of the pelvis, spine and hip; the eighth fractures of foot and hand, and the ninth offers a lengthy discussion on first aid, medical care and physiotherapy.

The book is well illustrated throughout and should be found useful to every practitioner engaged in general practice and wound surgery.

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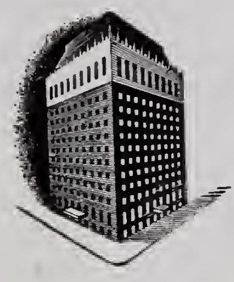
Nebraska Medical Society Convention 1942



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SOCIETIES

(Continued from Page 192)

The program was as follows: (1) Dinner at 6:30 p. m. After dinner: Discussions of matters pertaining to the affairs of the State Medical Association by President-elect Dexter D. King, M. D., York, and Executive Secretary M. C. Smith, Lincoln; (2) General Problems of Cardiac Diseases; a few remarks on Diagnosis and effect of ageing on Cardiac Vascular Disease by Frederick W. Niehaus, M. D., Omaha; (3) Cardiac Roentgenology by T. T. Harris,

(Continued on Page xxiii)

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SOCIETIES

(Continued from Page xix)

M. D., Omaha and (4) Cardiac Disease as Related to Obstetrics and Gynecological Surgery by Charles Moon, M. D., Omaha.

The Five-County Medical Society met at the Stratton Hotel in Wayne, April 2, 1942. Dinner was served to twenty members and their wives.

After dinner the society visited the new Benthack hospital, which will open very shortly. The Benthack hospital is modern in every detail and is completely fire-proof. Dr. Benthack is to be congratulated for having the courage and foresight in providing Wayne with such a remarkable institution.

After the inspection tour, the meeting was held at the hospital.

The scientific program was a forum on "The Acute Abdomen." Several case histories were presented by Dr. Benthack. A two-hour discussion by the members present followed.

The meeting was adjourned.

Following is the program of the spring meeting of the **Nebraska Society of Medical Technogolists** held March 28, 1942 at Lincoln:

Business meeting during which the following officers were elected for 1942-43:

President—Ida Carr Blore, 303 South 28th, Lincoln.

President-elect—Wilma Eicher, 345 North 37th St., Omaha.

Vice President—Bernice Elliott, 5107 Webster St., Omaha.

Secretary—Ruth Pohle, 352 North 41st St., Omaha.

Treasurer—Mary McMillan, 912 South 37th St., Omaha.

Sixth Council Member—Margaret Colfer, 206 LaFayette Apt., Lincoln.

"Normal Hemoglobin and Red Counts in Children," by Dr. Paul M. Bancroft, Lincoln, Nebr.

Evening—Banquet at Cornhusker Hotel.

"Parasitology," by Dr. H. W. Manter, Department of Zoology, University of Nebraska, Lincoln, Nebr.

NEBRASKA PHYSICIANS ON MILITARY DUTY

Dr. Harold Hellwig of Lincoln is a lieutenant in the navy, stationed at San Diego, California. Also in San Diego is Dr. John Hoban of Falls City, who is connected with the Naval Base Hospital and Dr. Tom Foley, formerly of Holdrege is in the Naval Base hospital.

Dr. Earl Slaughter, a native of Norfolk, is a captain in the medical corps at Fort Jackson, South Carolina.

Dr. W. J. Holden of Elkhorn is a first lieutenant in the army serving in the Base hospital at Camp Chaffee in Arkansas.

Dr. George Pugsley, Jr., of Bayard is a captain in the medical corps, stationed in Australia.

Dr. C. U. Bitner was to leave the latter part of April to go in the service in the U. S. Navy. Dr. Bitner is from Sidney, Nebr.

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HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. Hull A. Cook underwent a major operation recently.

Dr. Paul Baker of Scottsbluff addressed the Junior College of Scottsbluff.

Dr. and Mrs. Clarence Rubendall of Omaha vacationed in Florida in March.

Dr. John R. Nillson has resigned as chief surgeon of the Union Pacific railway.

Dr. O. C. Kreymborg of Brainard has moved to North Platte to become associated with Dr. T. E. Dent.

Dr. John V. Reilly of Grand Island has become the medical coordinator for the Cornhusker ordnance plant.

Drs. E. C. McAleer of Auburn and Aaron Spier of Lincoln have joined the Veterans administration facility.

Dr. Juul C. Nielsen of Ingleside spoke before the Child Welfare club in March on "Mental Diseases of Children."

Dr. W. Ray Hill, formerly of Osceola, has become the Medical Director of the new Ordnance plant at Wahoo.

Dr. A. G. Burnham addressed the Alliance Rotary club in March, on the influence of the war upon medical practice.

Dr. E. F. Zoreb, formerly of Clarkson, has located in Leigh. Dr. F. G. Kolouch of Prague will succeed Dr. Zoreb at Clarkson.

Dr. Dean Spear, a native of Lexington, has become associated with Dr. S. R. Gifford in the practice of ophthalmology in Chicago.

Dr. E. J. Delehanty of the Norfolk State Hospital spoke on "Preparation for Marriage" before the Mothers' department of the Womans club in March.

Dr. C. W. M. Poynter, dean of the college of medicine of the University of Nebraska, addressed the Omaha Business and Professional Women's club in March.

Dr. Lynn T. Hall of Omaha addressed the Dallas-Guthrie County Medical Society in Panora, Iowa, April 9th. His subject was "Uses and Abuses of Sulfonamides."

Vice President of Upjohn Firm Dies

Malcolm Galbraith, vice president, and director of sales of the Upjohn Company, died Friday morning, April 10, in Kansas City.

Mr. Galbraith was born in Bowmanville, Ontario, Canada, October 23, 1876. He received his bachelor of pharmacy degree at Ontario College of Pharmacy in 1898, entering the drug business in Ontario the same year. He later became a naturalized citizen of the United States. In 1909 he left N. K. Mulford Company, of Philadelphia, to join the Upjohn Company. In October, 1929 he was elected to the board of directors and named director of sales. He was made vice president of the company in May, 1936."

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NEBRASKA STATE MEDICAL ASSOCIATION 1942

W. P. Wherry, M. D., D. Sc.

We are at War. This theme must predicate every thought and postulate every action, whether we think or act individually or collectively.

May I point out that from 18 to 28 home workers are necessary to keep each soldier in the combat lines equipped. Likewise, let it be realized that health maintenance both at home and in the combat lines is the direct yardstick of war efficiency. Since this responsibility belongs to and must be assumed by Medicine, we of Medicine therefore are and can expect to become increasingly more affected as the war and the aftermath of war is continued.

The distribution of medical personnel to better maintain supply and replacements is now critical and will become increasingly more so. The situation must be met. In this connection, we must recall that the world is now confronted with a cultural destructiveness and ruthlessness, wherein an organized minority hold the balance of aggressiveness. The answer is a reorganization of the majority, which reorganization can be accomplished only by good leadership and sound thinking.

This concern for the future is a matter of stern practical sense. The specialized talents and abilities of Medicine necessary to meet this emergncy and those to come are not produced by feverish last-minute activities.

It is true, of course, that in an attempt to maintain long-range programs aiming at the future rather than at the present, no group can escape the urgencies of the moment. We are at War, and Win we must!

If we are to have a durable peace after the war, if out of the wreckage of the present a new kind of cooperative life is to be built on a global scale, the part that Medicine will play must not be overlooked. For although wars and economic rivalries may for longer or shorter periods isolate nations and split them into separate units, the process is never complete, because the intellectual life of the world, as far as science and learning are concerned, is definitely internationalized, and whether we wish it or not, an indelible pattern of unity has been woven into the society of mankind and will again have to be rebuilt by a process of long-continued policing and service. It would seem that we of the United States will have to do this job. An altruistic ideal perhaps, but none the less real. It is folly to assume that the breakdown of Hitler and the collapse of the Japs will immediately recreate our former status quo.

When the war is over and a new economic social period has been reconstructed, a roster of Medical Societies will contain only those groups who now in this earlier period have wisely builded their objectives and have made themselves essential to the whole, since to be essential to only a small group, or to a limited degree, will not provide enough prestige to stand the pressure. Listed in this roster at the end of the period discussed will be found, I am sure, only a few of the groups now current.

In the list will be primarily the State Medical Society, since it is the State which can act as a Unit of Service. Obviously, the American Medical Association, as a coordinating force to mould universal policies, bears the same relation to the whole as the County Unit bears to its State Management.

The time has come when State Medical Societies must build their Executive Management Group for permanence. By permanency, I mean that the personnel of the Executive Group rotate in office, to the end that changes each year will not affect policies.

It is absurd to think that a President coming in and going out in a given year should have the prerogative of dictating policies. It is equally absurd to think, at least it seems so to me, that a State Society can serve its purpose without a good, an interested, full-time Secretary.

All divisions of activities of the State agenda should be responsible to the Executive Group, and by the same token, the Executive Group is responsible to the membership and pledged to carry out the policies laid down by the coordinator—The American Medical Association.

A well-organized State Society can wield a powerful influence, if this interest is projected wisely and honestly—to which a wise Governor will listen, to which legislators and other political powers will listen.

A State Medical Society should be responsible for the everchanging requirements of civilian health protection, for policing its own personnel and keeping its skirts clean. And likewise should it interest itself actively in all State matters in which Medicine is concerned. This theme is in no way a small order—but the fulfillment can be an index of service and management ability.

In war times such as now exist, the responsibilities increase; however the State Society in its management organization should be flexible enough to meet all problems quickly, thoroughly, and again I state, honestly.

During the past few years many activities have been suggested, some even projected, by forces other than Medicine, which projects however affect Medicine. The State Society should see to it that some member of its executive group becomes a part of the Advisory Group to the project. Such a liaison cannot only keep the State Society Group informed, but can likewise point out errors on the part of the project early enough to sometimes avoid unpleasant conflicts. In other words, as the Executive Secretary of the Nebraska State Society so aptly put it—"If you are going to have anything to do with the devil, it is smart to play close enough that you know what he is doing all of the time."

If my assumptions have been correct and the revolution of thought now facing our cultural and economic status develops to the end that consolidations and in many instances elimination of Medical Societies proceed apace, it seems to me to be smart thinking to lend all of our ability, and all of our innate leadership to increase the potential influence of each of our own State Medical Societies, because as a finality there can be no question of the outcome when disorganization meets up with good organization.

This will be a long War.

That we of Medicine will contribute our service, dislocate our practices, give of our worldly goods, there can be no doubt, but let us do this job sanely, and wisely. Let us provide sound reasoning to our procedures. Let us carefully evaluate our facilities, pool our interests, and then move solidly in the direction of sure success and victory.

Back-biting, scheming, malice, and an uncharitableness one towards another have no place in the sum total of good planning.

With this epilogue, I bring to a close two years of official service to my State Medical Society, which two years symbolize the greatest honor that can come to a man of Medicine; namely, to be your President. I approach the status of a Past-President with mixed emotions: one, that of a grateful appreciation for the honor, and one of a regret that because of a coronary accident it was deemed unwise that I fulfill the inferential obligation of visiting each and all of the component group meetings held within the jurisdiction of this State Association. It has been a source of much uneasiness on my part that fate had so decreed. I am sincerely sorry.

This State Medical Association, acceptable to the traditions of Medicine, has continued to bring to the people of the State the best medical service and has endeavored to maintain honest medical policies. These intentions and ambitions have, you know, been attacked, an attack prompted, I suspect largely by the same unrest current everywhere. Some forces have attempted to reorganize medical service as a trade or perhaps along lines practiced in sales campaigns of business.

The themes prompting these mass movements have for the most part originated within the fertile field of philosophy, actuated usually by superficial surveys of only one phase, overlooking in the main a balanced analysis of the whole—cause—effect—and correction.

As has already been suggested, your officers realized that to meet these proposals safely required participation in so far as possible with those in control, and through an all embracing discussion to create familiarity of everyone with all sides and with all of the potential sequelae. The continuance of this policy is urged, since the good results this year have been of tangible value to Medicine.

At this time I desire to express to Governor Dwight Griswold, my own sincere appreciation as well as that of the State Association for his interest in the maintenance of sound thinking concerning medical problems. Governor Griswold has been most cooperative and very considerate in the several matters in which his concern for the State and for Medicine were involved.

Likewise, I express my appreciation to your Executive Secretary, Merrill Smith, whose skillful executive ability is herewith acknowledged. This same appreciation is expressed to Dr. Miller, State Director of Health; Colonel Bartholomew, State Medical Director of Selective Service, and to the several committees whose work and sacrifice to your interests could hardly be measured by a perusal of the records.

In this connection, I particularly desire to compliment Dr. Rowe and the members of the Medical Economics Committee. This committee has given much of its time and is rounding out a splendid service to the State.

The Procurement and Assignment Committee gives promise of facilitating the meeting of medical war needs in a far more efficient manner than that noted in the World War I. It is quite certain that the plan in operation is a protective mechanism towards the Armed Services, Medical Replacements, and Civilian Health. I urge that all members of this association cooperate fully.

Many very important projects and problems have been before your official family during the year and will be reported upon by the respective committees; suffice it to say that I personally feel the work done has been highly satisfactory, and the work yet unfinished is in hand.

I cannot close without again expressing my deep sense of gratitude for the honor of being your President. May I leave with you one thought, namely, "It is later than you think." Interpret this as you wish. To me the thought contained implies that regardless of how well we have planned or how secure we may feel, time does not stop and the unpredictable is ahead of us. To be too late as an individual involves but one, but when group thinking is consummated too late, the results are unforgivable and the innocent pay the price. The responsibility imposed through election or appointment is a fixed entity and to plan or act too late is a direct violation of this responsibility. Select carefully your representatives.

INSTALLATION OF THE INCOMING PRESIDENT

And now to my successor in office, Doctor King. May you enjoy the same cooperation accorded myself. I can visualize increasing emergencies which you and your staff will have to meet, I suspect even more in number than have occurred during the past year.

The Nebraska State Medical Society inferentially is responsible for the health maintenance of the people of this State.

Your problems in this connection with a decreasing personnel will be many and will be serious. I can sincerely promise that each and every one of us here will be at your command and your service. You will have a job to do. I know it will be done.

Tradition prescribes that I now present you the gavel, which signifies the release of authority on my part and your assumption to office.

I wish you and your staff my most hearty congratulations and my sincere best wishes.

DR. DEXTER D. KING

Members of the Nebraska State Medical Association: I do not have words potent enough to express my appreciation at having been elected to this office. At the same time I want you to know that down in my heart I have a great love for the Nebraska State Medical Association.

To follow a man like Dr. Wherry, who is

very able and experienced, is going to be rather a hard job for me. However, Dr. Wherry has been a grand president, he has done a splendid piece of work and the results of this work will not be noticeable for some time to come because many of the things he has started are just in the making. I am at this time going to perform one of the most pleasant duties which I have to do.

Dr. Wherry, on behalf of the Nebraska State Medical Association, I wish to present to you this Distinguished Service Certificate which you have so ably earned.

Dr. Wherry: Thank you; I am indeed grateful.

President King: Now it is not within my province at this time to make any talk. In fact, I have been advised that I should not do so.

Dr. Wherry has excellently presented the problems of this Association for the coming year and it shall be my effort and intention to carry out these things. We not only have to protect the health of the public but we have to protect the medical profession, and I shall do everything in my power to carry on as Dr. Wherry has done here before me.

Chairman Andrews: It is our custom each year to have a report and a paper by the Program Committee. This year I'm sure the Program Committee has functioned exceptionally well. At this time it is our pleasure to hear a report from Dr. J. E. M. Thomson of Lincoln, Chairman of the Program Committee.

OUR CHALLENGE

JAMES E. M. THOMSEN, M. D., F. A. C. S.
Lincoln, Nebraska
Chairman of the Program Committee of The Nebraska State Medical Association*

It is indeed difficult, even for one who has actually lived through personal participation in the physical impact of World War I, to fully appreciate the magnitude of the present conflict. One follows the news reports and interprets them in the light of the particular phase in which he had a part. As a doctor I see in it the reflection of my own experience in treating battle casualties. The infantryman would make his comparisons from his recollection of his life in the trenches; the aviator from his machine gunning sorties over enemy lines, and so on.

With these reflections and recollections in mind it is readily discernible to all of us that the present is a totally different conflict than we engaged in back in 1918. The devastation we saw is but child's play as compared with the present possibilities. The demands on the nations combating are tenfold — yes, many times tenfold—what they ever were before! The expansion of our lines of defense and offense have potentially or actually reached the borderland of almost every country in the world. Unfortunate circumstances have caused much loss of ground. Our position is precarious. Recent developments and Axis offensives might easily strangle our Allies and leave us, the Americas, standing alone against a conquered tyrant-held world. It would then be a fight with our backs to the wall; a fight for all we have and are! It is true, then, that profits, strikes, labor, social justice and injustice, and racial, religious and personal equations would all be forgotten. Would that we could, every living man, woman and child, make the all out for war effort before it is too late! Apparently each must have his selfish purpose. Capital must have its profits; labor its strikes. The forty-hour week seems vital, but most doctors work seventy or eighty hours a week. Oh yes, we are patriotic just as long as we can buy defense stamps and bonds, make money and pay taxes, but few care to trade their lot with the fellow who falls within the draft, or who has the courage to enlist with his life in this great adventure.

The young man in medicine should regard serving with the armed forces of his country at home or abroad as an opportunity for a rich and unusual professional experience, that will add to his character and his prestige in his future life more than he could attain by any other means. There are those of us who served in World War I who will be in this war, and we should regard as a rare provilege the possibility of being physically able to serve our country in emergency twice in one lifetime.

I recall the pride I felt when, as a newcomer to this state, I was asked to join the University of Nebraska hospital as orthopedic surgeon, back in 1917. The friendships made there have been my most cherished and everlasting. One interesting observation among one younger group was that, although we felt rather resentful of the men who stayed at home and made the "big money" in civilian practice while we were relegated to the order of permanent lieutenants, it wasn't very long after we were re-established in civil life that we who had sacrificed by leaving all for army service were well on the way towards filling a place in our communities, and were catching up with or passing those who had stayed at home and "gathered in the gold."

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*Address delivered at the Seventy-fourth Annual Session in Omaha, May 4, 1942.

After my service in Allery, France, in company with many of you who are members of this Association, caring for thousands of American, French and German sick and wounded, is it any wonder that I have read with zealous interest every report of the surgical problems of this war and compared them with our own experiences, which I have deemed always invaluable and unforgetable.

Think back and look at your war map of the last war. Follow the serpentine contour of the line of battle from the British Channel across Belgium and France. It varied but little from month to month. Our Allies would get well-entrenched and the Bosch would blast them out with shell and machine gun and rifle. A new defense would be entrenched a few rods or miles back, and when the German offense had worn itself out our reserves would come up and the Yanks were over the top and the Germans would be pushed back. So it went from week to week. Long before an engagement was anticipated in a sector the civilian population was removed far back behind the line of attack and danger.

In this war the type of action is so rapidly progressive and so unexpected that the civilian population has had no chance to be moved out. Their frantic efforts to escape the fury of the battle ever has made them an impediment to the defending armies and multiplied the casualties; as was the case in Poland, Belgium, the Netherlands and finally France. Then to this war has been added the attack from the air on the civilians directly, in the metropolitan industrial areas, with the devastation brought by tons of bombs of every type. England took the first of these lessons and is now, we hope, achieving adequate retaliation on the Axis in her air raids on the fatherland.

In the last war we saw the terrible lacerated wounds caused by flying shrapnel, in which large masses of skin, muscle and bone were torn away, the machine gun bullet wounds and an occasional bayonet stab; all inflicted on soldiers. But now the motorized army, progressing with ruthless swiftness in armored tanks and motorized vehicles, presses mercilessly onward under an advance force in the air with parachute troops and bombs, trampling, burning and blasting every living thing in front of it. Or from the air alone the attack is advanced, with total destruction and death in store for all in its path. Not only soldiers but thousands of civilians are among the casualties. The vicious wounds we were familiar with in 1918 are there in abundance, but in addition there is the devastation of the modern explosive bomb, leaving its tremendous crater in a business center and doing inconceivable damage. The explosive concussion kills many without a mark on the body. On the other hand, casualties may be literally peppered with hundreds of small puncture wounds, due to flying glass, dirt, wood, brick, stone and everything that has met the blast's fury. Any one wound may prove fatal.

We of the medical profession must enlist whole-heartedly in this program of civilian defense. Its importance cannot be overestimated. True—we are far remote now from the danger zone. That's what they thought a few months ago at Pearl Harbour. It is hard to imagine a flury of ton or six ton bombs dropped in this city tonight with rescue crews working in pitch darkness. What chance is there for team work and coordinated effort? Who would apply the splints to broken legs? Where would they find the splints anyhow? Well, they have met this challenge in England with a well disciplined and trained civilian defense organization.

The last war taught us the importance of adequately splinting them where they were injured; the early use of tetanus antitoxin; the combating of shock by opiates, warmth and fluids; the thorough debridement of a wound; and the open wound Carrel-Dakin treatment of infection. This war has added the better understanding of "shock," and the importance of adding to the circulation the specific type of fluid that is needed. A laboratory test determines whether salt solution, sugar, plasma serum or whole blood will change the picture. The sulfa drugs have added to the effectiveness of debridement. The more complete knowledge of splinting and plaster of Paris technique has made frequent, painful dressings unnecessary, and early closure of wounds and massive skin grafting are more promising.

We must keep constantly abreast of the current developments in wound treatment, even here at home, that we may not be caught wanting should civilian catastrophes have to be met in our peaceful countryside, which is rapidly becoming a vital arsenal of defense and offense. Here at home we have a part to play, at least to the extent of being prepared. Every medical program during this conflict should devote a certain amount of time to war medicine and surgery. Our challenge, as our numbers are depleted by service connections, is to ever keep ourselves in readiness for any emergency that may arise, and pride ourselves in the knowledge that we are always ready to serve our commonwealth and country in whatever role an emergency may demand.

* * *

Physicians Are Urged to Seek Army Commissions Immediately

Physicians who have selected the Army as first choice in their enrolment with the Procurement and Assignment Service should not wait to be called on by state recruitment teams but should apply for immediate commissioning to the state representatives of the Procurement and Assignment Service, The Journal of the American Medical Association advises in an editorial in its May 16 issue. The Journal says:

"Under the heading of Medicine and the War in this issue of The Journal appears an official statement by General Hershey, director of the Selective Service System, relative to the recruitment of physicians for the United States Army Medical Corps. This statement, addressed to the state directors of the Selective Service System, discusses the new plan, already described in The Journal, whereby teams for the recruitment of physicians are established in the various states. Following a meeting in Omaha on May 8 the plan was extended also to all states west of the Mississippi River. In each state representatives of the Office of the Surgeon General of the Army, of the Adjutant General's Office and the state representative of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians will function as a team for the recruitment of physicians. They have authority to issue commissions in the grades of lieutenant and captain, immediately following physical examination. This step has been necessary because of the shortage now prevailing of five thousand physicians for the U. S. Army Medical Corps. No doubt physicians in more than adequate numbers will respond.

"Never has there been any question of the patriotism of the medical profession! Any delay that has occurred up to now in enrolment has been associated with the desire of every physician to serve in the capacity for which he is best suited. The various technics that have been developed for making such determination have apparently resulted in some delay by physicians in making themselves available prior to receipt of the enrolment form and questionnaire now in the hands of every physician. Already many thousands of these enrolment forms have been received in the office of the National Roster. The names of physicians who select Army as first choice will no doubt soon be supplied to the state recruitment teams; they may then call on such physicians for immediate action. However, physicians must not wait for such call; they are needed now. They may apply for immediate commissioning to the state representatives of the Procurement and Assignment Service.

"The circular issued by General Hershey calls particularly to the attention of the local boards of the Selective Service System the type of consideration to be given to claims by physicians for deferment because of dependency. Physicians who are commissioned as officers will, of course, have much more difficulty in sustaining a claim based on dependency than would those who are enlisted in ranks below that of lieutenant or captain.

"As experience has developed, it becomes more and more apparent that many of the difficult problems associated with the recruitment of physicians are being solved. By a decision now prevailing, physicians who are not citizens may enlist in the United States Army and after three months of service may be made citizens. If the situation concerns a physician from abroad who is licensed to practice in one of the states, he may become a citizen by enlisting in the United States Army and after a period of three months may become a citizen and apply for a commission.

"Today the situation is much more complicated than in the times of previous wars. A system of extended residences and assistantships associated with qualification for the certificates of the boards in the various specialties now covers many young graduates in medicine. Especially needed at this time as a means of encouragement to such young men in offering their services to the armed forces is a definite action on the part of each one of the certifying boards indicating the extent to which it will accept military service as a part of the requirement for certification in a specialty of medical practice.

"A meeting of the Committee on Medical Preparedness of the American Medical Association was held in Chicago on May 9. The Committee on Medical Preparedness considered many of the problems which now confront the medical profession in relation to an adequate supply of medical officers for the armed forces. The headquarters of the American Medical Association is giving its fullest cooperation to the Surgeon Generals and to the Office of Procurement and Assignment. The American medical profession has never failed in its response to the government of the United States when its members were needed in time of war."

Dermatologic Fashions*

DR. S. WILLIAM BECKER
Chicago, Illinois
From the Section of Dermatology, School of Medicine,
University of Chicago

"Cardinal Newman affirmed that human beings, at large, are influenced by types rather than by arguments, and not so much by ideas and pure reason as by prevailing fashions." Garrison, in An Introduction to the History of Medicine.

Just as modern man has had to adjust himself to the sight of those funny little women's hats, primitive man undoubtedly had to become accustomed to changes in fashions involving both clothing and medical practice, which, history tells us, included dermatologic endeavors.

Modern scientific dermatology dates from the end of the 18th century(1) when the British dermatologist, Willan, presented his classification of cutaneous disorders in 1785. Attention was focused chiefly on their morphologic aspects. Hence, that epoc is known as the morphologic era of dermatology. With this analysis an accomplished fact, Willan's disciple, Biett, introduced etiologic concepts into France where the prevailing consideration of skin diseases assumed an internal causation. All skin diseases were thought to be due to internal humors—something that was wrong inside the body. This idea was responsible for the internist era of the French.

Knowledge of pathology, which was just then coming to the fore, induced Hebra the Viennese dermatologist, to assume that dermatoses were not of systemic origin but rather due to local factors, since pathologic changes in the skin did not differ appreciably from those in diseased internal organs. He was responsible for the externist era of dermatology.

Routine bacteriologic study some 30 years later by Unna, a dermatologist in Hamburg, revealed supposedly pathogenic bacteria in many cutaneous lesions. This period has been called the bacterial era.

As the result of application of biologic methods to the study of patients with dermatosis by Jadassohn, Bloch and Rost, dermatology has now entered its biologic era. Identification of certain diseases with functional nervous disturbances has been made by European workers, notably O'Donovan and Kreibich, and others in this country, notably Stokes and Klauder. For this reason, the present era may be called the functional era.

The German dermatologist, Rost, believing that a new viewpoint might be advisable, quoted the poet Goethe as follows: "When science comes to a standstill and does not progress in spite of the endeavors of many active men, the blame often lies with the method of presentation, whereby the subject is conventionally considered through an old accepted terminology to which the majority acquiese without further questioning, and which thinking men dare to challenge only in isolated instances and even then with a wee small voice."

It is with this wee small voice that I wish to offer a mild challenge to some of the minor tendencies which might be called fashionettes in the present functional era of dermatology.

The first example is the common tendency to attribute common cutaneous disorders to "acid in the blood." Ginsberg(2), working in our clinic, studied the hydrogen ion concentration and the carbon dioxide content of the blood serum in 66 patients with 27 of the common dermatoses. All were within normal limits—in others words, the concept of "too much acid in the blood" as a cause of cutaneous disorders is apparently false.

A second flagrant violation of scientific practice is the too frequent diagnosis of vesicular eruptions of the hands and feet as fungous disorders. The diagnosis of fungous infection rests on laboratory(3) rather than clinical examination. One of the most difficult feats in the post graduate training of younger men is to convince them that there is no characteristic picture of ringworm of the feet, and that vesicular fungous infection of the hands is almost unknown. One young dermatologist who had already entered the practice of his specialty stated in all seriousness that he believed that there must be a filtrable form of fungus. This belief was not based on scientific evidence, but rather was an attempt to bridge the gap between the all too frequent diagnosis of fungus infection and the all too rare presence of demonstrable fungi. My associates and I have found in our research[4] that fungous infection can be demonstrated in not over 12% in children and 30% in adults who present the so-called typical clinical picture of fungous infection. In warmer districts in the South and in the Summer in the North the percentage rises (50% in Summer in the North).

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*Read before Annual Assembly Nebraska State Medical Association, Lincoln, Nebr., May 7, 1941.

The third fashion is to regard eruptions of the exposed surfaces of the body as produced by contact with external irritants, even though the clinical picture does not present the typical eczematoid sequence of erythema, edema, vesiculation, oozing and crusting over all areas exposed to the supposed irritant, and patch tests to the supposedly causative substance are negative. Two of the latest culprits are soap and nail polish. The evidence for incriminating soap as the cause of eczema is at best only indirect and cannot be accepted as conclusive. Eruptions from nail polish are occasionally seen in which the polish has been proven to be causative by obtaining a positive patch test and by disappearance of the eruption after discontinuance of the polish. The eruption is eczematoid in type, but may be less diffuse than usual on account of the localized application of the polish during various maneuvers, such as stroking the skin of the eyelids, face, neck or arms with the polished nails. The dermatitis does not occur on the fingers in the region about the nails.

A fourth fashion in modern dermatology is the designation of an eruption as "allergic," a magic term which is associated with sufficient hocus pocus that the patient swallows the idea hook, line and sinker, only to be disappointed in the results of therapy based thereon. The truly allergic infections cutaneous disorders include tuberculids, syphilids, certain pyogenic lesions and possibly lupus erythematodes. The allergic lesion differs from the non-allergic by the fact that it is more inflammatory and leaves an atrophic, non-contractile scar. On the basis of the finding positive dermal tests (scratch and intradermal methods), other chronic resistant eruptions formerly included in the eczema group, have been designated as allergic. Urticaria is also falsely considered to usually arise as the result of allergy. Epidermal allergy can be demonstrated in eczematous eruptions by the positive patch test. If these eruptions are clinically studied, it is possible to prove their allergic nature in only a small percentage of cases. I believe that one secret of the popularity of allergy is the tangibility of the positive cutaneous test, either of the patch, scratch or intradermal variety. My associates and I have shown[5] that it is possible to obtain positive dermal tests in a varied proportion of a rather common but persistent and troublesome dermatosis, but information gained thereby has seldom been of great assistance in determining the cause of the eruption.

Lest we be accused of tearing down our colleagues house of cards, it behooves us to offer a substitute, built, if possible, on the rocks instead of the sands. We have studied the various dermatoses in question at length[6] [7], but I am compelled to admit that a majority of them have no demonstrable organic basis and must be included in the as yet intangible field of functional medicine. A sense of fatigue is usually lacking in these patients, or a prolonged siege of a dermatosis may alternate with a period of easy fatigability. Our explanation to the patient that his dermatosis represents perversion of the sense of fatigue, may appear on the surface to be as unconvincing or more so than the aforementioned mechanisms, but at least we have the advantage of a higher percentage of satisfactory therapeutic results than can be obtained from endeavoring to correct acid in the blood, to destroy a fungus that is not there, to eliminate supposed external irritants, to remove a supposed allergin or to fortify a patient against it by injections. I hope, however, that diagnosis and treatment of a cutaneous disorder on a functional basis will not become such a fashion that organic causes for the disorders will be overlooked.

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Mucocele of the Appendix and Pseudomyxoma Peritonei*

A Clinical and Experimental Study

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Mucocele of the appendix and pseudomyxoma peritonei are relatively uncommon conditions. According to Jones and Carmody (1936), the total number of cases of mucocele reported up to that time was about 400. D'Aunoy and Fine (1934), estimated the total number of cases of pseudomyxoma peritonei of appendicial origin to be 90. Our interest in these conditions was stimulated by the following clinical case.

CASE REPORT

Mr. D. P., age 44. First seen by one of us (M. G.) on November 6, 1939. Chief complaint: General abdominal pain of one day's duration. Some nausea but no vomiting. Bowels had not moved since onset of illness. Temperature normal and pulse 80. Examination of abdomen revealed moderate tenderness in lower right quadrant and marked muscle guard which made it difficult to palpate any masses. Patient stated he had had similar attack one year previously, from which he had recovered under conservative management.

Laboratory Findings: R. B. C. 5,300,000. Hgb. 102%. W. B. C. 12,400. Seg. 62%. Staff. 8%. Lymph. 19%. Eos. 3%. Monos. 8%. Urine: essentially negative.

Diagnosis: Acute or subacute recurrent appendicitis. Operation advised, refused at first, but consented to the following day.

Operation, November 7, 1939 (M. G.): Gas-ether anesthesia. Abdomen opened through McBurney incision. Considerable clear, free fluid in the peritoneal cavity. Large mass encountered posteromedial to the caecum, and adherent to the caecum and small bowel. After careful separation by sharp and blunt dissection, this mass proved to be a greatly enlarged appendix. Mesoappendix and base ligated with chromic No. 2 catgut and appendix removed. Stump carbolized but not inverted. Limited exploration revealed no further pathology in abdomen. Abdominal wall closed in layers without drainage.

Pathological Report (A. R.): Appendix egg-shaped, measuring 8.5 x 5 cms. (Fig. 1). Surface red, injected, and roughened in the areas where adhesive bands had been separated. Lumen filled with thick, jelly-like material, typical of mucus. This material gave reduction test for mucin and stained red with mucicarmine. Wall made up of fibromuscular tissue infiltrated with leukocytes (mostly lymphocytes). Mucosa totally atrophied, no epithelial cells being demonstrable. Pathological diagnosis: Mucocele of the appendix.

Patient made an uneventful recovery and, when last seen (April, 1941), was in good health.

LITERATURE

The term "mucocele of the appendix" was first used by Fere (1876), although Rokitansky (Weaver, 1937) described this condition in 1842 and Virchow (Masson and Hamrick, 1930) in 1863. Secondary peritoneal deposits resulting from rupture of mucocele of the appendix were first named "pseudomyxoma peritonei" by Fraenkel (1901), although Werth (1884), had previously used the term to apply to the secondary peritoneal deposits resulting from rupture of certain ovarian cysts. Numerous articles have appeared in the literature, particularly since 1930, describing the clinical and pathological pictures. The reader is referred to a previous article (Grodinsky and Rubnitz, 1941) for a more comprehensive review of the literature.

ETIOLOGY

According to most authors, obstruction of the lumen of the appendix is essential for the formation of mucocele. However, Vorhaus (1930), and Lefvendahl and Ries (1932), have reported cases diagnosed preoperatively by x-ray examination with barium. This would indicate that complete or permanent obstruction is not necessary and that infection may enter the lumen. Wangensteen and his associates (1937-1939), have demonstrated the production of acute appendicitis by obstruction of appendices not previously irrigated. Perhaps it is the amount and character of infection in the lumen, which determines whether a relatively sterile mucocele or an infected, gangrenous appendix results from obstruction at the base.

PATHOLOGY

The earlier stages of mucocele reveal a hyperplastic secretory mucosa with cuboidal or columnar goblet cells, considerable round cell infiltration of the submucosa, and hypertrophy of the muscularis. With increasing distention, the mucosa becomes gradually atrophic and, in larger specimens, epithelial cells are entirely absent. In the later stages, the rest of the wall becomes thinned out with loss of muscle fibers and replacement by connective tissue. Diverticula may form, and finally the wall may rupture with extrusion of the contents of the lumen and the formation of secondary deposits or growths, pseudomyxoma peritonei. The latter are usually incapsulated by walls of connective tissue with varying degree of inflammatory cellular infiltration.

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*Read before the Annual Assembly of Nebraska State Medical Association, Lincoln, May 7, 1941.

The contents of mucoceles and pseudomyxoma peritonei vary from a thin, clear or slightly turbid, sticky fluid to a thick, gelatinous substance, depending on the degree of inspissation. Where considerable leukocytic infiltration has occurred, the contents become whitish or putty-like, resembling caseous or necrotic material. This is usually the condition in the secondary deposits. A distinction between true mucin and so called pseudomucin is often made on the basis of staining reaction (mucicarmine) or the reduction tests. However, since all gradations of staining reactions occur and reduction tests may be obtained with true mucin, such a distinction is valueless and the term pseudomucin had best be abandoned.

CLINICAL PICTURE

There is usually pain in the lower right quadrant of the abdomen, but this is not apt to be severe or well localized. The initial epigastric or paraumbilical pain of acute appendicitis is often absent. There may be slight nausea, usually without vomiting. Fever and leukocytosis are usually absent. Constipation may or may not be present. Muscular rigidity is not present unless there is marked associated inflammatory reaction. Sometimes the symptoms are those of intestinal obstruction due to pressure of the mucocele on adjacent loops of bowel or to intussusception. Quite often the mucocele is large enough to be palpated through the abdominal wall and this facilitates the diagnosis. If the obstruction to the lumen of the appendix is incomplete or the lumen has reopened, the appendix may be visualized by x-ray examination with barium, thus further aiding in the diagnosis. (Vorhaus, 1930; Lefvendahl and Ries, 1932). However, the diagnosis is seldom made pre-operatively, and operation is usually performed for appendicitis, which most closely resembles this condition.

TREATMENT AND PROGNOSIS

The treatment of mucocele of the appendix consists essentially of appendectomy. As long as the lesion is confined to the appendix and no leakage has resulted into the general peritoneal cavity, complete recovery is the rule. If leakage has occurred and daughter lesions are present scattered through the peritoneal cavity, the prognosis is much more serious. Due to their multiplicity and indefinite outlines, it is physically impossible to remove all such secondary deposits surgically. There is evidence that at times the secondary growths disappear following the removal of the primary lesion by appendectomy. However, the secondary lesions often take on malignant characteristics and continue to grow after the removal of the appendix. This had lead to the view that two types of secondary pseudomyxomatous growths may result: the one, a benign, passive deposit of the mucous contents from the appendix which may re-absorb after the removal of the primary lesion; the other, a transplant of epithelial cells from the appendix to the general peritoneal surfaces where they take on a malignant characteristics. Woodruff and McDonald (1940) believe that malignant, pseudomyxomatous growths, secondary to mucocele of the appendix, occur only as the result of the transplantation of epithelial cells from previously existing malignancy in the appendix. However, the possibility of change in the serosal cells themselves by stimulation from the appendiceal contents must also be kept in mind. X-ray treatment for pseudomyxoma peritonei is recommended by some authors (Masson and Hamrick, 1930), but its value has not been proven and it is difficult to evaluate as long as the secondary lesions may disappear spontaneously after removal of the appendix. More often, the pseudomyxoma assumes malignant characteristics and results fatally.

ANIMAL EXPERIMENTATION

Because the rabbit appendix most closely resembles that of the human in structure and function, this animal was used in all our animal experiments.

Normal Rabbit Appendix: In the rabbits used in our experiments, weighing between 5 and 6 pounds, this structure is larger than in the human, averaging about 10 cm. in length and 1 to 1½ cm. in diameter. There is a double blood supply, from the appendicial vessels and from the vessels of the adjacent loop of jejunum, both of which lie in a common messentery. The wall of the appendix is much thinner than in the human, particularly the sero-muscular layer which makes up only about 4% of the wall. The submucosa or middle layer, on the other hand, is much thicker than in the human and forms the bulk of the appendicial wall, comprising about 72% of the total thickness. This layer consists of elongated, cone-shaped follicles of lymphoid tissue, arranged at right angles to the long axis of the appendix and separated from each other by fibrous trabeculae extending from the sero-muscular layer to the mucosa. The inner or mucous layer makes up about 24% of the total wall. The epithelial cells of the mucosa, for the most part, closely resemble the mucin producing cells in the human appendix and are normally filled with their mucinous secretion. In both the rabbit and human, the appendix is chiefly an organ of secretion rather than of absorption.

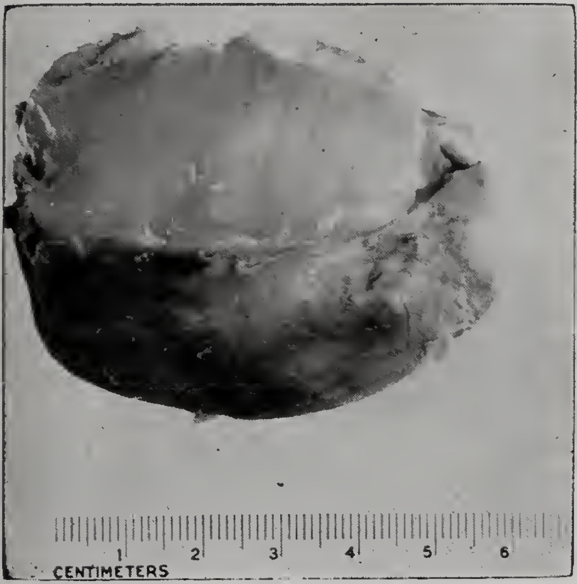

Fig. 1. Photograph of mucocele of the appendix in clinical case (D. P.). Part of wall removed to show mucous contents. Photograph taken after fixation, some shrinking having occurred.

Materials and Methods: Twenty-six rabbits were used in the ligation and injection experiments. In the ligation experiments, each animal was operated upon at least twice: the first operation consisting of ligating the appendix and the second of exploring the peritoneal cavity from two to eight weeks later. In our experience, the tightness of the closure was a very important part of the procedure. We felt that some of our failures to produce mucocele were due to incomplete closure of the lumen. In the first two experiments, the appendices were ligated without preliminary irrigation of the lumina. Both animals died of peritonitis. In subsequent experiments, we preceded the ligations by irrigation of the lumina with 60 to 80 cc. of normal salt solution, using a syringe and needle. This procedure insured relatively clean lumina before ligating and resulted in reducing the mortality rate practically to zero, except where complicating factors were present.

In the injection experiments, the animals were injected intraperitoneally with material taken from the contents of mucoceles or from the contents (and walls) of pseudomyxomatous lesions produced in other rabbits. Where the material was too thick to go through a needle, it was first emulsified and diluted with sterile normal salt solution. In a few instances, the material was passed through a Seitz filter, and the filtrate and residue (or original substance) injected into separate animals.

Results of Ligations: By the above technique mucoceles, varying in size and stage according to the lapse of time between operations, were produced almost at will (10 out of 12 animals). (Fig. 2). In addition, where sufficient time was allowed to elapse between ligation and the secondary exploration, rupture of or extension through the walls of mucoceles with the production of secondary deposits or implants, pseudomyxoma peritonei, took place in several animals (6 out of 10 animals that developed mucoceles). (Fig 2).

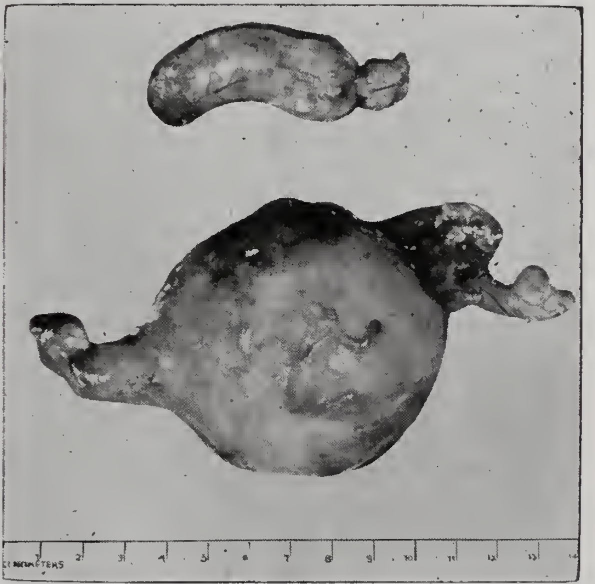

Fig. 2. Photograph of mucocele of appendix and secondary implant in rabbit No. 8. Note: Part of the contents of the appendix had been lost before this photograph was taken.

Results of Intraperitoneal Injections: Because of excessively hot weather during the later period of the experimental work, 6 animals were lost from heat exhaustion. Nine other animals were used in this group of experiments, 7 injected with the contents of mucoceles and 2 with an emulsion of the contents, or of the contents and walls, of secondary deposits. Of the 7 animals injected with the contents of mucoceles, 5 were injected with the whole contents or residue after filtration and 2 with the filtrate left after passing the contents through a Seitz filter. Neither of the latter developed lesions, but 3 out of the 5 injected with the whole contents or residue showed typical pseudomyxomatous deposits in the peritoneal cavity. The 2 animals, injected with an emulsion of the contents, or of the contents and wall, of secondary deposits, both developed pseudomyxomatous lesions of their own. One rabbit, which had developed secondary deposits after the intraperitoneal injection of the contents from the mucocele of another rabbit, showed a disappearance of the lesions upon exploration several weeks later. A second injection was attempted but the animal died of heat exhaustion. This experiment would indicate the production of an immunity reaction and recalls the tendency of some pseudomyxomatous lesions in the human to disappear after removal of the primary lesion.

Contents of Mucoceles and Secondary Deposits in Experimental Animals: The contents of the mucoceles and pseudomyxoma produced in our experimental animals closely resembled those found in humans as previously described. Bacteriologically, the contents of the mucoceles showed many small gram-negative (colon) and large gram-positive bacilli on smears and cultures. The contents of the secondary pseudomyxomatous lesions showed no organisms on direct smears and were sterile on culture.

Microscopic Picture: The histopathology of the appendices and secondary deposits in the experimental animals present many interesting observations and open up several new problems. In the smaller and younger specimens of mucoceles, the epithelial cells show little change but, in the older and larger specimens, the epithelial cells may become compressed and flattened by the pressure of the contents within the lumina, and eventually undergo atrophy and disappear. The most striking change however, is in the middle layer. The normally thick layer of lymphoid tissue becomes much thinned out and the axis of the lymph follicles becomes parallel to the long axis of the appendix, due to the pressure within the lumen. The normally thin sero-muscular layer may be thickened at first due to inflammatory reaction and fibrous tissue increase, but it later becomes thinned out by stretching. All the layers contain inflammatory cells, chiefly leukocytes with many eosinophiles.

The secondary deposits consist of an outer wall of young or more mature connective tissue, at times distinctly myxomatous in character. The central portions are usually necrotic, containing many inflammatory cells in various stages of disintegration. Toward the periphery of the necrotic central zone, these cells are better preserved and consist of many eosinophiles intermingled with large mononuclear cells, occasional large histiocytes and giant cells.

CONCLUSIONS

1. A personal case of mucocele of the appendix has been described. The clinical and pathological pictures, treatment and prognosis of mucocele and pseudomyxoma peritonei have been discussed.

2. Mucocele of the appendix and pseudomyxoma peritonei were produced by a definite technique in a series of animal experiments on twenty-six rabbits.

3. The most important etiological factor in the production of mucocele is the obstruction at or near the base of the appendix, with a relatively clean but not necessarily bacteriologically sterile lumen.

4. A similar obstruction with a grossly infected lumen leads to acute appendicitis and gangrene.

5. Pseudomyxoma peritonei follows rupture of the mucocele wall and dissemination of the contents along peritoneal surfaces.

6. The questions arises as to whether the pseudomyxomatous lesions are the result of actual transplantation of epithelial cells from the appendicial mucosa or the result of specific irritation of the serosal cells by the mucous contents. Further work will be necessary to answer this question.

7. In some of our experiments there was evidence of the development of an immunity reaction, with the disappearance of secondary pseudomyxomatous lesions following the removal of the primary mucocele. In most of the clinical cases reported, however, the pseudomyxomatous lesions assumed

malignant characteristics and led to a fatal outcome.

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DID you ever hear of fashions in dermatology? Those who listened to the discussion by Dr. Becker last year will enjoy reading the paper on "Dermatologic Fashions" on page 199

AN interesting and unusual paper with case report was presented at last year's Annual Session of Our Association by Drs. Grodinsky and Rubnitz. Read about mucocele of the appendix on page........201

THE disability following any major surgical operation constitutes a medical as well as an economic problem. Dr. Best discussed this phase of medical practice before the Railway Surgeons in Chicago last fall. See page.....206

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Disability Following Cholecystectomy*

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When a patient accepts the decision that it has become necessary to remove the gallbladder in order to relieve indigestion, discomfort, pain or jaundice, it is only natural that he would assume the condition will be entirely corrected in a matter of a few weeks and the routine duties of life can be taken up again without curtailment. However desirable this state of affairs would be, one can never state with complete assurance that such will be the case, because in a certain percentage of patients who undergo cholecystectomy the disability continues or recurs. Under proper conditions of diagnosis, preoperative management, operative technique and postoperative care, good results can be expected in 90% or more of the cases in which cholelithiasis is part of the pathologic picture. If gallstones are not found at operation, it has been my experience that good results cannot be expected in more than 70% of the cases. In chronic cholecystitis and cholelithiasis where malignancy is not a factor, routine cholecystectomy, either with or without opening the common duct, should not carry an operative mortality of more than 3%. The mortality factor will not be discussed in this paper.

Continued disability after cholecystectomy readily falls into one or more of three groups, namely (1) incorrect diagnosis; (2) co-existing disease; (3) factors associated with an operation upon the biliary tract.

An incorrect diagnosis can usually be attributed to the lack of complete preoperative gastrointestinal study, misinterpretation of symptoms which have arised from disease associated with the heart or kidney, or incomplete exploration at the operating table. A complete preoperative gastrointestinal study should include the cholecystogram, gastric analysis, and stomach and colon x-rays, for not too infrequently hyperacidity or hypoacidity, peptic ulcer—especially of the posterior type penetrating into the pancreas, or a spastic condition of the stomach or colon will be found to account for the symptoms suggesting biliary tract disease. If the cholecystogram portrays a normal functioning gallbladder with no visible stones, and if the patient complains more of a vague indigestion or some right upper abdominal discomfort than of true biliary colic, medical treatment for biliary dysfunction should be given a thorough trial, because it is probably easier to manage the patient with a gastrointestinal disorder who still has his apparently normal gallbladder than it would be if the gallbladder were removed and such complications as adhesions, hernia and the psychic phenomenon entered the picture. In the event that x-rays do reveal gallbladder dysfunction, such as poor filling or emptying, but there is no evidence of stones, no history of true colic or pain and no history of jaundice, chills or fever, again one must not be too zealous in forcing the issue of cholecystectomy without first attempting a medical regime. On the other hand, if there is x-ray evidence of normal gallbladder function and the cardiac, renal and gastrointestinal systems are negative, but the patient does complain of definite biliary colic, cholecystectomy should be advised and with quite high assurance that it will be successful. According to Carter, Green and Twiss(6) there is a 5 to 15% chance that stones are present in the gallbladder even though they are not visible on the normal cholecystogram.

Foss and Lillie(7) have properly stated that one must seriously question the statistics showing that 30 to 50% of gallbladders removed were of the non-calculous type, even though the reported mortality of 1 to 2% is impressive. They believe that many of these operations are performed because of symtoms rather than because there are definite pathologic processes which would justify cholecystectomy.

In the realm of surgery, when an error, either avoidable or unavoidable, results in the patient undergoing a surgical procedure, not too infrequently the patient is tagged a "neurotic" because he has not improved, and he usually has a rather stormy future.

When co-existing disease or pathology accounts for the continued disability, as in the second group, the disability period could be definitely shortened by a more complete study and examination of the patient before cholecystectomy is done. Only recently, thorough preoperative check-up of a patient revealed both cholelithiasis and renal lithiasis. No doubt this individual had disabling symptoms from both the biliary and urological tracts but because the problem could be discussed with the patient and the necessity for two operations explained, a later embarrassing situation was avoided. Any coexisting condition, whether peptic ulcer, cardio or pylorospasm, acid imbalance, spastic colon, hepatitis, pancreatitis, or other gastrointestinal disturbance, must be corrected or the surgical treatment of the biliary tract disease will be criticized when the failure should rest only in incomplete diagnosis. The element of neurosis applies here as in the first group.

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*Presented before the meeting of the American Association of Railway Surgeons in Chicago, Illinois, on September 8, 1941.

The third group deals with factors associated with the operation and our most consistent sources of trouble seem to be the following: Permitting stones to remain in the common duct, dysfunction of the choledochal sphincter (spastic biliary dyssynergia), incomplete removal of the gallbladder, postoperative hernia, biliary fistula, postoperative stricture of the common duct, or disturbing adhesions.

Taking up these points in reverse order to their frequency, one may state that following cholecystectomy, adhesions giving rise to marked distress or disturbance of digestion are unusual, although until the last fifteen years our knowledge of biliary tract physiology and pathology was not so complete and we were very prone to ascribe the complaint to adhesions. Now we have had ample reports and proof to make this pathologic entity rather insignificant.

Operative injury to the common duct which causes complete obstruction usually gives a very clear picture with gradual and steady increase of jaundice beginning several days following operation. The decision that operative interference is necessary to establish biliary-intestinal anastomosis can be made rather readily and early. Incomplete stricture due to partial narrowing of the common duct from operative trauma, or the slowly progressing inflammatory stricture, present a later onset of jaundice which may or may not be progressive. However, with jaundice of mild to moderate degree and with sufficient bile in the stools for proper digestive function, we are still dealing with an individual who may be partially or completely disabled. The patient is dissatisfied with his icteroid tinge and regardless of whether discomfort or pain are present, he is not quite as presentable to society when public contact is necessary for the elaboration of his duties, and self consciousness alone may prevent him from desiring to return to his work. Of course there are patients with a permanent icteroid appearance who carry on their work normally, and that is as it should be. The attending surgeon is usually rather hesitant about forcing early operation for incomplete stricture, and rightly so, for not too infrequently if inflammatory edema alone is causing the stricture, the condition will correct itself. Also, what is assumed to be a stricture from the clinical picture occasionally proves to be a small stone which may or may not make its exit through the sphincter area at the lower end of the common duct. Unless the jaundice is definitely progressive or pain is a prominent factor, it is my belief that these patients should be observed for three months at the least. The three-day biliary flush regime, repeated every two weeks, improves the condition in a certain percentage of these patients and in some instances affords complete temporary or permanent relief. The thin bile washes through the narrowed area much easier and may remove collections of mucus, thickened bile or a small stone from behind the stricture. Local hot packs and restriction of activity are beneficial in decreasing any inflammatory edema.

A secondary operation for probable stricture having been advised and some type of biliary-intestinal anastomosis planned, one must face a mortality rate of 10 to 15%. The reported incidence of secondary cholangeitis following anastomosis of the common or hepatic duct to the gastro-intestinal tract varies. It has occurred in my own experience and in an attempt to avoid this complication, it has been my routine procedure during the last three years to advise the three-day biliary flush regime. Under this regime the bile is thinned out and forced through the biliary tract under increased pressure. The patient is specifically directed to take the flush the first three days of each month and to repeat it at any time in the interim that he begins to feel bilious. My experience with this has been very gratifying. Several patients who were apparently incapacitated after the gastrointestinal anastomosis were sufficiently relieved that they could carry on their work.

A biliary fistula in most instances is associated with obstruction of the common duct or sphincter area by stone, spasm, stricture or tumor. There may be a partial or complete discharge of bile through the fistulous tract. If there is a copious discharge of bile through the tract at the end of three weeks following a biliary tract operation, a cholangiogram should be taken by injecting 20 to 30 cc. of an organic iodide contrast medium, such as hippuran or diodrast, and one should be guided by the cholangiographic findings. A fair percentage of these fistulas, when due only to spasm or slight narrowing in the ductal region, will clear up under the flush regime. In such instances, one must pack the tract for at least part of each day. A copious discharge of bile through a fistulous tract usually precludes an individual from carrying on his duties.

A postoperative hernia may be a serious disability, and although I have not seen many of them following cholecystectomy, my general rule is to advise early repair, particularly when the hernia is small. It is comparatively simple to repair a small incisional hernia with silk two to four months after operation, the results are usually excellent and the mortality negligible. If one waits until the hernia gives subjective trouble and has become very large, greater difficulty is encountered at operation, the mortality is inevitably higher, there is less chance of complete and permanent cure, and a longer period of disability follows. After satisfactory closure of the small hernia by an overlapping procedure with nonabsorbable suture material, the average patient can be back in his routine in three or four weeks, even though it is of a rather strenuous nature.

Although very few surgeons have been impressed with the frequency and size of "re-formed" gallbladders since the scholarly discussion of this matter by the late H. L. Beye(5) in which he reported that it was discovered in 14 (21.2%) of a total of 66 secondary operations on the biliary tract, I was greatly impressed this last year when as a guest at Iowa City I saw several "re-formed" gallbladders. On this particular day, Dr. Peterson removed a completely re-formed gallbladder from a patient on whom Dr. Beye had previously done a cholecystectomy. Fortunately the specimen from the first operation had been preserved and could be compared with the fresh pathological specimen from the second operation. Probably these figures are higher than is generally accepted, but if the area of the stump of the cystic duct were more closely examined when secondary operations for common duct stones are performed, this could be substantiated.

During the last six years in discussions on the spastic state of the choledochal sphincter, cholangiograms have been presented which reveal various phases of this definite clinical entity of spastic biliary dyssynergia. Although early in our experience a report was made of one case in which spasm of the choledochal sphincter was so complete as to cause complete lack of bile in the stool over a period of 30 days, we were slow in fully appreciating how closely it simulated common duct stone. Delayed cholangiograms and intraductal pressure studies(3) (4) are convincing demonstrations, however. This is particularly true after a few cases have been re-operated for common duct stone and no evidence found of stone, stricture, tumor, mucous plug or blood clot blocking the common duct even though the history of extreme pain and colic with jaundice or chills and faver indicated such pathology. As in previously discussed cases, adequate attempts should be made to manage the condition conservatively. First co-existing disease should be ruled out, particularly penetrating peptic ulcer and urinary lithiasis. Then if repeated biliary flushes, antispasmodics, smooth diet and hot packs fail to bring about improvement, re-operation becomes necessary. The common duct should be thoroughly explored and if no stone is found, a T-tube should be placed in the common duct and left for some three to twelve months. However, the patient can probably return to his work some four to six weeks following operation, permitting the bile to drain into a small container attached to the T-tube, or keeping the T-tube clamped off during working hours. After two months have elapsed, the tube may gradually be clamped for longer periods. From this one can judge when the tube can safely be removed. There should be no hurry, and probably it would be safer to leave the tube in for at least six months. Before it is removed, it should have been clamped off for at least three weeks, without being opened for drainage. On one occasion, I removed a T-tube after a two month period and after it had been closed off for two weeks with no symptoms of pain or colic, only to have the pain, colic and jaundice recur within one month. This necessitated a third operation and re-exploration of the common duct again confirmed our diagnosis of no common duct stone. I doubt if the incidence of finding no stone in the common duct upon re-operation has been sufficiently reported. Foss and Lillie(7) stated that in 22 (66.6%) out of 33 re-operations, no stone was found in the common duct. Stated otherwise, this is only 33.3% having stones present at secondary operation. I have performed secondary operations on 24 patients, on whom the cholecystectomy had been done by myself or elsewhere, and have found that stones were present in 15 or 62.5%. This does not include re-operation in cases of malignancy or stricture. It has been my observation that with biliary dyssynergia, patients begin to have their recurrent attacks of pain, colic, jaundice, or chills and fever within a few weeks after operation.

Remaining common duct stone is the most common cause of disability following cholecystectomy. Mucous plugs, blood clots, collections of inspissated bile and debris may give rise to similar symptoms(1, 2, 3, 4,). The source of stones in the common duct following cholecystectomy provokes some interesting speculation. My own opinion, based upon supposition from experience and meager reports from the literature, is that these calculi result from the following causes and in about the following order: (1) stones overlooked at the first operation; (2) hepatic duct stones reaching the common duct following operation; (3) secondary formation of stones; (4) stones dislodged from the gallbladder into the common duct during operation.

In opening the common duct, certain criteria must be followed. I usually perform choledochostomy under the following conditions: (1) if there are palpable stones in the common or hepatic ducts; (2) when there is a history of jaundice; (3) if multiple small stones are found in the gallbladder; (4) if the wall of the common duct is dilated or thickened.

The higher the percentage of stones in a series of gallbladder cases, the oftener one should explore the common duct. About 90% of my cases have shown stones in the gallbladder, and although at one time I was opening the common duct in 45% of these cases, this figure dropped down to 20% for one year, and during the last year has risen to about 30%. Common duct stones have been found in 16% of all cases operated upon, and of those in which stones are found in the gallbladder, about one out of five will also have common duct stones.

Walters and Comfort(9) refer to the incidence of common duct stone as 12.19% of all cases. Lahey(8) reports an incidence of 19% in all cases and he opens the common duct in 41% of his cases.

If it is suspected that a stone does remain in the common duct, the patient should first have the advantage of the three-day biliary flush(1, 2, 4), repeated over a period of weeks. The flush regime is as follows:

1. Take 3 Decholin or Procholon tablets after each meal and at bedtime each day.
2. Take 1 teaspoonful of magnesium sulphate in water each morning.
3. Take two tablespoons of pure cream or olive oil before noon and evening meals and at bedtime each day.
4. On the 1st day, place 1 nitroglycerin tablet (1/100 grain) under the tongue before each meal.
5. On the 2nd day, dissolve 1 atropine tablet (1/100 grain) in a little water and take before each meal.
6. Repeat the nitroglycerin on the 3rd day.
7. In cases with T-tube or catheter in the common duct, daily irrigations with warm saline and warm olive oil are of definite value.

Of late, if there has not been definite relief after two flushes, I have resorted to giving the sodium salt of dehydrocholic acid intravenously, usually 10 cc. of the 20% solution (Decholin) once a day for the three days. This is repeated after a week's rest, if necessary. This method has been successful in several cases when the oral method has failed. The only contraindication to the flush is complete obstruction of the common duct with no visible bile in the stool. Under such circumstances the increased intraductal bile pressure would theoretically build up sufficient intrahepatic pressure to cause damage to liver cells. If the stone or stones have not been dislodged after two attempts with the oral method and two with the intravenous method over a period of six weeks, operation is definitely indicated. One must not forget that liver damage follows each attack of biliary colic. Before the introduction of the biliary flush, one was more likely to prolong the disability period by waiting and hoping that "it would wear itself out and something would happen to give relief," but now if increased bile flow and intraductal pressure combined with relaxation of the sphincter area do not bring relief in six weeks, I can see no reason for prolonging the disability period and delaying operation.

At the secondary operation, as in all choledochostomies I believe the small T-tube is more efficient than a simple catheter in the common duct for several reasons. If spastic dyssynergia occurs, a T-tube is not so easy to remove accidentally. The T-tube affords clearer cholangiograms, which should always be made before removing any T-tube or catheter within the common duct. Personally, I place the omission of the delayed cholangiogram in the same category as omitting an x-ray of the wrist, ankle or hip following injury to these regions, as all disability periods are shortened by taking advantage of all methods for early diagnosis, and especially is this true in the complicated case.

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ARMY AT PRESENT REQUIRES FIVE THOUSAND MORE PHYSICIANS

"As we go to press the Army requires five thousand physicians, in excess of those already enrolled (in the Army), to meet existing needs." The Journal of the American Medical Association for April 25 says in an editorial. "Therefore, every physician ready now for service who knows that he is not filling an essential position may apply at once to the office of the corps area commander in his area, to the Office of the Air Surgeon, Army Air Force, Washington, D. C., or directly to the Office of the Surgeon General in Washington so that he may receive at once an application blank and proceed to have a physical examination. The Procurement and Assignment Service headquarters in Washington, aided by the consulting office in the American Medical Association and the individual corps areas and state offices, will continue to clear the names of physicians who apply.

"This week to every physician licensed to practice in the United States there is mailed the long awaited enrolment form and questionnaire of the Procurement and Assignment Service. It comes jointly from the National Roster of Scientific and Specialized Personnel and the Procurement and Assignment Service for Physicians, Dentists and Veterinarians. Each of these agencies is, in turn, related to others and ultimately to the Executive Office of the President. Every physician who receives the medical enrolment form should fill it out as completely as possible and return it immediately in the franked envelop which accompanies it. Opportunity is given to indicate first, second, third and fourth choices of assignment, and it is hoped that the complete functioning of this service will be such that Army, Navy, public health, civilian and industrial needs may be met.

"This week in Washington a meeting has been called of state representatives of the Procurement and Assignment Service east of the Mississippi River only together with officers of the Army and Navy medical departments, the corps area officers and the board of the Procurement and Assignment Service to work out plans which will aid recruitment in the individual states. Such plans will, of course, be announced just as soon as they have been suitably drawn and made available. The chairman for veterinary medicine and dentistry have not been called because there exists no shortage in the supply of these professions for the armed forces. Chairmen of states west of the Mississippi River will meet at a later date at some city west of the Mississippi River.

"The physicians of this country have invariably responded to the needs of the armed forces whenever they have been called upon. The Selective Service System makes every man in the United States under 45 years of age available on call. Complete cooperation through use of the enrolment form and through direct application by those ready to volunteer immediately will meet the various demands on medical services without making necessary any call on the Selective Service System for the provision of necessary physicians to the armed forces."

Diverticulum of the Urinary Bladder*

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The word diverticulum is derived from the Latin word meaning "to turn aside," and in reference to diverticulum of the urinary bladder, it might be stated that a portion of the urine is "turned aside" from the normal outflow and retained, temporarily at least, in an outpouching of the bladder.

The importance of urinary diverticula must be realized because in cases with poor drainage and infection, with resultant stagnation and ammonia formation in the urine, the resultant subjective symptoms are not exceeded in severity by those of advanced vesical tuberculosis, carcinoma or calculus. Diverticula of the urinary bladder are next in importance to those of the colon.

DEFINITION

Diverticula have been called sacs, bladder compartments, pouches, pockets and double bladders. A vesical diverticulum is a congenital or acquired defect of the bladder musculature resulting in the protrusion or traction of the mucous membrane into the perivesical space, with the production of a urinary containing cavity.

TRUE AND FALSE TYPES

The false type of diverticula are more often called cellules and are simply shallow depressions due to protrusion outwards of the epithelial lining alone, between hypertrophied muscle bundles. The cellules are found in greater number than true diverticula, are quite shallow and communicate with the bladder lumen by a relatively wide opening and are seldom larger than a pea.

The true diverticula vary in size from a hazel nut to a capacity even larger than that of the bladder, some having a capacity of 2,500 c.c. to 4,000 c.c.

LOCATION AND NUMBER

The greater number of diverticula are found in the retrotrigonal area and posterolateral walls near the ureteral orifices, less frequently on the lateral walls or dome. When located on the vertex, the diverticulum is usually due to persistence of the urachus. The formation of diverticula near the ureteral orifices may be due to the weakening of the bladder wall by the entrance of large blood vessels in that region and the diagonal passage of the intramural segment of the ureter. In about one third of all cases, diverticula are multiple.

ETIOLOGY

Much difference of opinion exists as to whether all the larger diverticula are congenital or arise later in life, i.e. are acquired. Some authors base their opinions on the fact that there is a developmental effect of muscle fibers in the embryo and that diverticula have been found in the fetus and also occur in the newborn and in older children. The persistence of the urachus has already been mentioned with relation to diverticula found in the vertex of the bladder. Retention of urine in the fetus, due to a temporary agglutination of the urethral mucosa, a superabundance of embryonic tissue in the bladder wall and supernumerary ureteric buds may be listed as predisposing intrauterine causes. However the immediate etiological factor usually is an obstruction to the urinary outflow, whether that obstruction be an enlarged prostate, valves in the posterior urethra, chronic neuromuscular vesical disease, contracted bladder neck, urethral stricture or carcinoma of the bladder.

RELATION TO AGE AND SEX

Although diverticula are occasionally found in children, the majority are found after the age of 40 and nearly 70% occur between the ages of 50 and 70.

The ratio of their occurence in females as compared to males is about 1 to 10.

COMPLICATIONS

1. Infection. Infection is the most frequent complication and the results of this complication no doubt are the main reasons why the patient seeks relief.

2. Calculus formation. Infection and retention of urine in the diverticulum favor the formation of calculi.

3. Hemorrhage. This may be the outstanding feature of the clinical picture. It may be the result of infection alone or because of the presence of a calculus or a neoplasm in the diverticulum.

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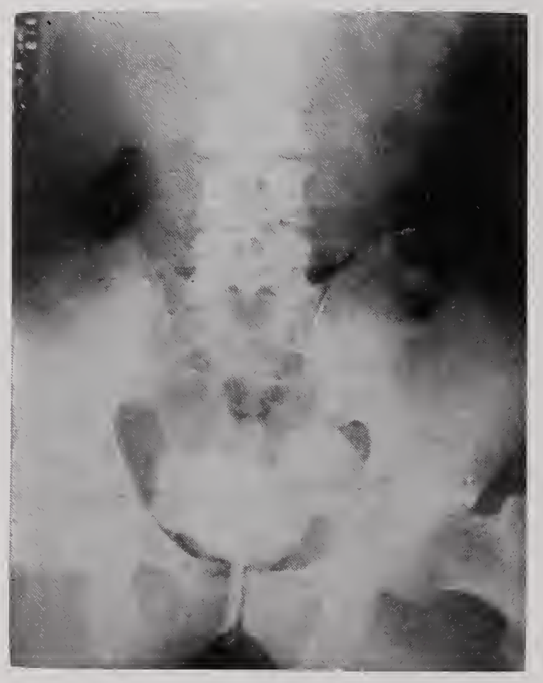
*Read before Annual Assembly Nebraska State Medical Association, Lincoln, May 7, 1941.

**Abstract of a thesis presented to the University of Pennsylvania as partial requirement for a Master's degree under the preceptorship of Dr. Louis M. Orr, Orlando, Florida.

4. Neoplasms. Although primary carcinoma of the bladder extending into a diverticulum are frequently found, primary carcinoma of the diverticulum are rather infrequent.

5. Complications incident to relation of the diverticulum to the ureter. This may cause an obstruction of the ureter with resultant hydronephrosis or there may be a regurgitation or reflux because of an obstruction at the vesical neck.



Before operation.

6. Spontaneous rupture. Although this complication is very rare, its possibility must be borne in mind, especially if a calculus or neoplasm is present in the diverticulum.

7. Fistula. This, no doubt, is a rarity but a few cases have been reported in the literature.

SYMPTOMS

There are no pathognomonic symptoms of a vesical diverticulum. As a rule the symptoms are those of a cystitis, pericystitis or those incident to a urethral or bladder neck obstruction. At times it is possible to palpate a mass which is separate and distinct from the distended bladder and the patient might be aware of a mass in his abdomen that appears larger at times.

1. Dysuria, i.e. difficulty in emptying the bladder up to a point of complete retention or an interruption of the act, so that after voiding a small amount of urine, there is an interval and this is followed by the passage of a much larger quantity. This is often referred to as two-phase voiding or repeat urination.

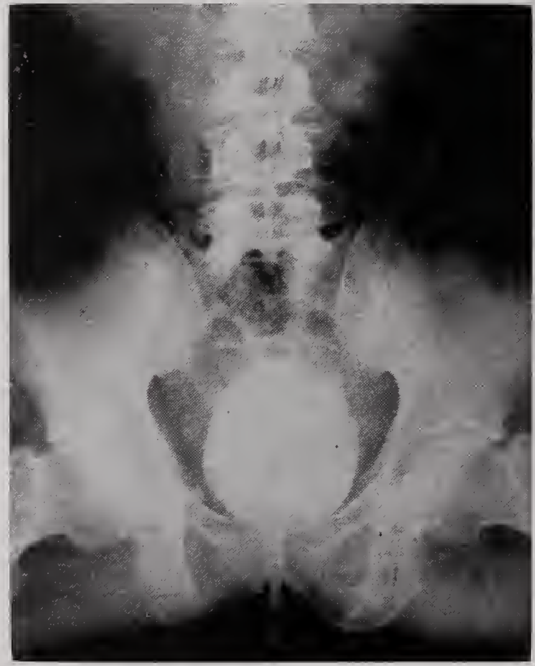
Other disturbances of micturition may be frequency, urgency and tenesmus with more or less pyuria.

2. The persistence of infection after the removal of urethral or vesical neck obstruction. Of course there are other causes for the persistence of infection, but diverticulum should be kept in mind.

3. Catheterization. If at first a clear or even slightly turbid urine is obtained and then, especially after exerting suprapubic pressure, suddenly turbid urine is evacuated, a diverticulum should be suspected.

DIAGNOSIS

Many diverticul are discovered during routing cystoscopic or x-ray examinations and some are encountered at operations. Many others, however, are overlooked by physicians treating urinary infections because diverticula are not suspected.

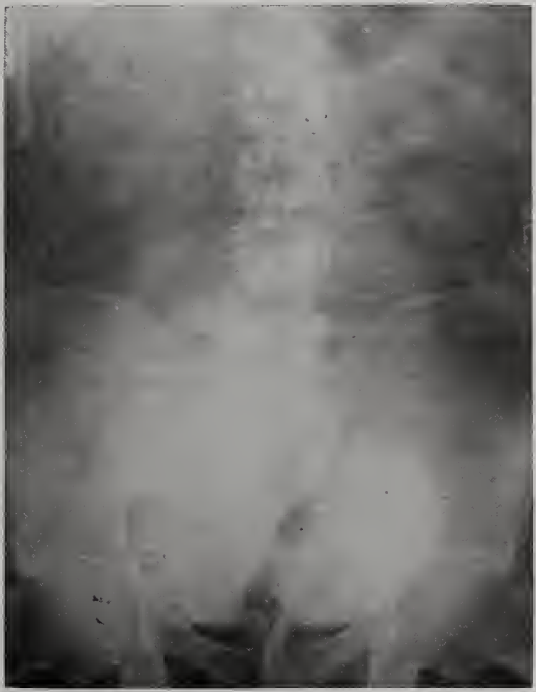


After operation.

1. Cystoscopy. A cellule must be differentiated from a diverticulum. A cellule as a rule is shallower, with a wide base, while in the diverticulum there is a more or less definite os with well demarcated edges. One can see the base of cellule but when looking

at a diverticulum, there seems to be beyond a dark space.

2. Cystoradioscopy. This consists of filling the bladder with some radiopaque solution such as sodium bromide (or similar medium) of strengths from 5% to 25%. Oblique or lateral as well as anterior-posterior films should be made. The size, number and shape of the diverticula and the presence or absence of reflux can be observed. It is best to make a plain film before filling the bladder with an opaque medium, thus eliminating the possibility of overlooking a calculus.



Before operation.

If for any reason a catheter cannot be introduced into the bladder, a good cystogram can be obtained by the intravenous use of one of the various radiopaque substances used for that purpose.

3. Passage of an opaque ureteral catheter. This is of great importance in determining the relations of the sac to the ureter.

4. Palpation. A mass may be felt as contiguous with the bladder, in some cases, either by abdominal palpation or per rectum.

PROGNOSIS

Cellules and small diverticula are innocuous and usually remain so if the obstruction at the vesical neck is removed, but may cause a persistence of infection or stone.

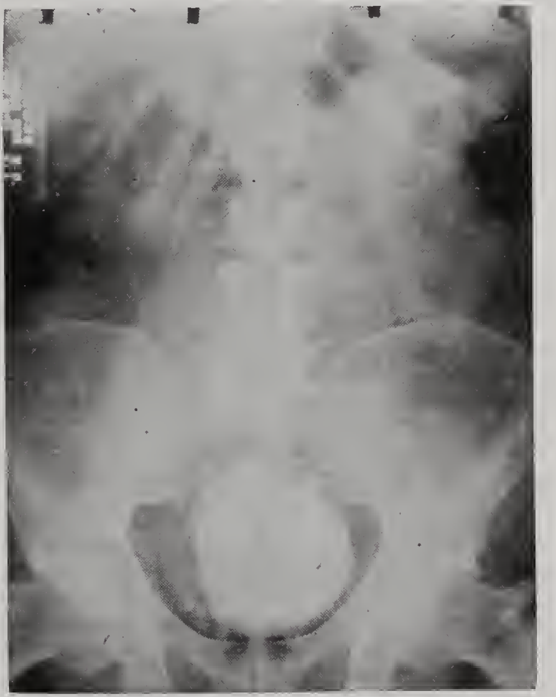
Many neglected cases are reported in hospital practice and they not only present advanced cases of severe prostatism with diverticulum, but urinary infection and grave renal damage. In some cases, only palliative measures, such as drainage by catheter or cystotomy are indicated. In other cases, by preliminary decompression, catheterization and cystotomy, the inflammation may subside sufficiently to make operation comparatively safe.

The reported operative mortality in suitable cases is 5%.

TREATMENT

The treatment is palliative in poor risks and surgical in cases that can be properly prepared. Many diverticula produce few symptoms after the obstruction at the vesical neck is removed.

In 1904, Dr. Hugh Young was the first surgeon in this country to operate upon a diverticulum. He made a circular incision around the orifice and the diverticulum was drawn into the bladder. Since that time there have been many modifications of diverticulectomies. The sac has been packed with gauze, pulled into the bladder by suction or by means of a rubber bag that is placed into the sac and distended. Some cases are operated upon extravesically or in combination with the intravesical approach. In some very bad risks, the os of the diverticulum has been enlarged in its most depend-



After operation.

ent portion by the transurethral use of a cutting diathermy knife.

If the ureter is involved, it might be necessary to do a plastic operation or transplant it to some other portion of the bladder.

CASE 1

Male, 64 years old. Complained that it hurt him to make water. His family physician irrigated his bladder for two months with no relief. Examination revealed two diverticula, one on each side of the bladder above the ureteral orifices and a moderately enlarged prostate. Both diverticula were removed at one operation. Two weeks later the prostate was removed transurethrally by resection. Recovery uneventful.

CASE 2

Male age 60. Came to the office stating that his bladder irritated him and that he wanted it washed out. He had had a transurethral prostatic resection about 8 months previously and was told to have his bladder irrigated for some time. Examination showed a large diverticulum that contained 2,600 c.c. of urine. There remained some obstructive prostatic tissue at the vesical outlet. Diverticulectomy was followed in three weeks by a transurethral resection of obstructing prostatic tissue.

SUMMARY AND CONCLUSIONS

1. Obstruction should be looked for in every case of vesical diverticulum and conversely, diverticulum should be suspected in every case of bladder neck obstruction.

2. Both congenital and acquired factors enter into the cause of diverticula.

3. Diagnosis is ready made by cystoscopy and cystograms.

4. Nonretention large neck diverticula usually require no operative intervention.

5. Total excision of the sac is in the best operative procedure when surgical intervention is indicated.

6. Before operating, the entire urinary tract should be carefully studied for associated pathological lesions.

7. "Small" prostates may be the cause of diverticula. In a majority of cases the obstruction at the vesical neck will be a median bar or vesical neck contraction.

8. Early correction of the milder forms of bladder neck obstructions, such as fibrosis and median bars, may prevent the formation of diverticula and serious renal damage.

* * *

Opportunity for Young Doctors

Young doctors are in unusually active demand because most of the qualified practitioners have gone into the armed service or are expecting to do so very soon. The older doctors will be overworked and many communities left without medical assistance. Fortunately for America, we have more doctors per thousand population than any other nation—and these doctors have been given education and training of an unsurpassed quality.

At the present time, some 18,000 doctors are in the military forces. By the end of the year, 10,000 more will be called. That, according to medical Economics, will automatically shift the responsibility for at least 9,000,000 potential patients onto the shoulders of practitioners who remain at home. That means an average of some 80 extra potential patients per private doctor. And this will be further increased in the years to come, as still more physicians are called to active military duty.

Those doctors who stay in private practice will have to work harder. They will have to make even more efficient the use of their time than at present. Fortunately for the health of the people, the superb past record of American medicine indicates that the doctors will fully live up to the vast responsibility that war has thrust upon them. American medicine, at all times, is geared to emergency conditions. It is ready for a crisis.

In wartime, it is obvious that extraordinary efforts must be made to maintain the public health at the highest obtainable level. The doctors will do their part. And all of us must cooperate. Don't take unnecssary chances.—From Wayne Herald.

Squibb Now Packages Diphtheria Toxoids According To New Recommended Dosages

Following the recommendation of the Committee on Administrative Practice of the American Public Health Association of two doses of diphtheria toxoid alum precipitated, or three doses of diphtheria toxoid, for immunization against diphtheria, E. R. Squibb and Sons, New York, are now supplying Diphtheria Toxoid Alum Precipitated Squibb in two-dose packages and Diphtheria Toxoid (Ramon) Squibb in three-dose packages.

The new recommended dosages are the outgrowth of comprehensive studies which have shown conclusively that a higher percentage of children receiving 2 x 1 cc. doses of diphtheria toxoid alum precipitated, or three doses of diphtheria toxoid, will be subsequently Shick-negative, than those children to whom only 1 cc. of diphtheria toxoid alum precipitated or 2 x 1 cc. of diphtheria toxoid—the heretofore commonly used dosages—is administered.

Squibb diphtheria toxoids are now packaged as follows:

Diphtheria Toxoid Squibb (Anatoxin Ramon): 3 x 1 cc. vials, (one complete immunization); 30 cc. vial, (ten complete immunizations); 1 cc. vial for reaction test.

Diphtheria Toxoid Alum Precipitated Refined Squibb: 2 x 1 cc. vials, (one complete immunization); 2 x ½ cc. vials, (one complete immunization); 10 cc. vial, (five complete immunizations); 5 cc. vial, (five complete immunizations).—Reader

The Value of Lanatoside-C in the Treatment of Heart Disease*

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Lanatoside C is one of the three genuine glucosides isolated from digitalis lanata by Stoll(1) and his co-workers. The "genuine glucosides" as defined by Stoll are "the unchanged initial cardiac glucosides as they pre-exist in the fresh plant, carefully dried," and consist of an aglucone nucleus linked by a side chain to a various number of sugars. The glucosides as we have known them until recently are in reality degeneration products of the genuine glucosides, having lost some of their sugar molecules. By use of a special process Stoll found it possible to extract from digitalis lanata a crystalline glucosidic complex which he named Digilanid, and further investigation showed this complex to be composed of three separate genuine glucosides, the lanatosides A, B, and C**. These glucosides being crystalline, their dosage can be accurately determined gravimetrically thus doing away with the necessity for biologic assay; also being chemically pure substances which contain no enzymes, they are not subject to changes in potency during storage.

By similar studies with digitalis purpurea, Stoll was able to obtain two amorphous initial glucosides chemically related to the lanatosides A and B. These also correspond to the previously known glucosides, digitoxin and gitoxin respectively, the latter however being deficient in a glucose molecule. Lanatoside C, corresponding to digoxin in the same manner, has no chemical counterpart in the glucosides of digitalis purpurea. Thus we have in lanatoside C a genuine glucoside differing chemically from all other known glucosides, and existing in a crystalline state, and hence stable, adequately soluble, and constant in action.

Following upon the introduction of this glucoside a number of pharmacologic studies were undertaken by various investigators. Moe and Visscher(2), using a heart lung preparation comparing the three glucosides of lanata, demonstrated that lanatoside C is greatly superior to the others in increasing cardiac efficiency and has a much higher ratio of therapeutic to toxic effect, thus "implying a greater margin of safety in accomplishing improved cardiac efficiency." Fahr and LaDue(3) demonstrated the relative safety of this drug by administering it in large doses to dogs over long periods and producing no anatomic changes in the myocardium of these animals; similar experiments by other investigators using digitoxin caused degenerative changes within thirty days. Kwit, Gold and Cattell(4), on the other hand, in comparing lanatoside C with digitalis leaf and Digitaline Nativelle found no difference in range between the therapeutic and toxic dose in man for these drugs; they studied a selected group of 67 patients. The most thorough clinical study of this glucoside to date is that of Fahr and LaDue(3), who in the period of October, 1937 to April, 1940 had used it in 256 cases. These investigators found it highly efficacious in auricular fibrillation when administered orally and much more so when given intravenously. They found it almost as efficacious in congestive heart failure in the presence of normal sinus rhythm. They found it useful also in certain cardiac arrhythmias, such as supraventricular paroxysmal tachycardia and auricular flutter. Moreover, they state, "Lanatoside C seems definitely less toxic than preparations of digitalis purpurea. Some patients who cannot tolerate digitalis purpurea can take lanatoside C in sufficient doses to aid in the relief of their heart failure."

CASE REPORT

Mrs. C. M., a housewife age 42, has been under my observation for the past 10 years. She gives a history of an attack of chorea during adolescence; she was confined to her bed for a year at that time, but had not been told that her heart was affected. In 1923 she underwent her only pregnancy and experienced no particular difficulty. In 1934 she developed an acute polyarthritis which involved most of her joints and left her with residual deformities and ankylosis in both hands and wrists. Her heart is enlarged to the left and presents systolic and diastolic murmurs, best heard at the apex and transmitted to the axilla.

Since early in 1934 she has had recurrent periods of decompensation, generally of a mild degree, which had been more or less successfully kept under control by drop doses of tincture of digitalis. By August 1938 the congestive heart failure had become quite severe and was associated with auricular fibrillation and a ventricular rate of 144. Powdered leaf of digitalis was administered, but after taking 7 cat units she became nauseated and the drug had to be discontinued. A few days later, because of the persistence of the fast irregular pulse, digitalis was again resumed, but again had to be stopped after 7 cat units. Thereafter she went through several such cycles, and although the digitalis was given in smaller doses, intervening nausea soon forced its discontinuance. However a relative compensation was finally obtained, but this lasted only two weeks. Toward the end of September she was again badly decompensated, but this time a fairly satisfactory control was managed by the block method of administering digitalis, i e., alternating it with diuretin at four day intervals. This control lasted only three weeks and by the middle of October she was again decompensated. Quinidine was tried, and three days later she suddenly developed a tender palpable spleen, obviously embolic; but the heart beat became fairly regular and thereafter, although quinidine alone failed to keep her sufficiently controlled, she was kept more or less compensated by combinations of this drug with small doses of digitalis.

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*Read before the Omaha-Douglas County Medical Society, Febr. 10, 1942.

**Nomenclature approved by the Committee on Nomenclature of the Council on Pharmacy and Chemistry of the A. M. A.

By February 15, 1939 she was again badly decompensated, necessitating the administration of large doses of digitalis. The next day she was depressed, dizzy and nauseated and the ventricular rate was 128. The liver was enlarged and there was slight edema. The mental depression persisted and by the 18th of February she was vomiting almost constantly and her ventricular rate was 68, pulse strong, and there had developed a peculiar purpuric ring around both eyes. She later admitted that she had taken 16 cat units of digitalis within 30 hours on February 16th and 17th. Discontinuing the digitalis her condition improved, and by the 22nd of February she was again cheerful, had a good appetite and was sleeping well. Her ventricular rate remained at 50 to 60. Following this episode of overdigitalization she was well compensated for about two weeks.

The history from March, 1939, to July, 1941, consists of a series of cycles of decompensation, digitalis, partial compensation, toxicity, discontinuance of digitalis and generally a short period of compensation following. The pattern of the toxic episodes was always more or less the same: Nausea, vomiting, insomnia, mental depression, and purpuric ring about the eyes, and usually of three days duration. During this period various commercial brands of digitalis purpurea were used*, but always with the same effect. The decompensation had at times reached the stage where salyrgan had to be administered to obtain relief from the edema. Toxicity would often follow even small doses of digitalis. She obtained her best compensation only for short periods following the toxic episodes. From August, 1938 to July, 1941 she was bedridden most of the time and left the house only on three or four urgent occasions during that entire period of almost 3 years.

On July 2, 1941, the administration of lanatoside C** was begun. The effects as compared with previous attempts were striking. Compensation developed smoothly and by July 23rd she was well compensated with a ventricular rate of around 84. This compensation lasted from July through September. Before long she was able to be up and around and to leave the house, and came to my office for her subsequent care. In September she even took a trip to Ames, Iowa, without untoward effects. During this period she experienced only one toxic episode and this was mild and of one days' duration.

On October 13th she was again badly decompensated, this time due to neglect of treatment occasioned by an overconfidence; she had failed to report for three weeks for observation. Edema was marked, the liver enlarged, and the heart was very irregular with a ventricular rate of 100. Lanatoside C was again administered in larger doses and esidrone was given intravenously for the relief of the edema. Compensation was soon established once more, but unfortunately she suffered a cerebral embolism with a left sided hemiplegia and a left homonymous hemianopsia. The hemiplegia cleared within two weeks, but the eye condition still persists and there is some evidence of permanent damage developing. However, from the cardiac standpoint she remains well compensated; and that on small doses of lanatoside C. Recently she has been able to get along without the aid of the drug for fairly long periods. She has had no more toxic episodes.

COMMENT

This patient presents an example of intolerance to digitalis purpurea, developing toxicity before she had taken sufficient of the drug to produce therapeutic effects. This phenomenon persisted regardless of the commercial brand of digitalis used. Quinidine alone was insufficient to keep her compensated. Lanatoside C however, brought about practically dramatic results. She was able to take large enough doses of this drug to obtain therapeusis without toxicity. As a matter of fact. she took about 150 cat units of this substance before developing a pulse slow enough to indicate a possible overdigitalization and another 225 cat units before she developed nausea; a total of 375 cat units over 2½ months. Incidentally, the purpuric ring about her eyes is explainable on the basis of the exertion associated with vomiting as evidenced by a similar phenomenon when the vomiting was due to a cause other than overdigitalization, namely cerebral pressure. On the whole this patient demonstrates that lanatoside C is definitely less toxic than preparations of digitalis purpurea and agrees with the observations of Fahr and LaDue(3).

SUMMARY

1. Lanatoside C is a crystalline initial glucoside of digitalis lanata. It has no chemical counterpart in the glucosides of digitalis purpurea. It is stable, potent, and adequately soluble, and is reported to be less toxic than other preparations of digitalis.

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*Digitora, Upjohn, Digifoline, Ciba, and Kapseals Digifortis, P. D.

**Cedilanid, Sandoz—Tablets—0.5 mg.—Cat unit equals approximately 0.28 mg.

2. A case of rheumatic mitral disease with auricular fibrillation and congestive heart failure is reported. This patient was unable to tolerate digitalis purpurea, but responded promptly and effectively to lanatoside C.

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* * *

Men with One Leg Now Eligible for Limited Service in the Army

A man who has lost one leg, provided it is below the junction of the middle and lower thirds of the thigh and has been replaced with a satisfactory artificial one, may now be considered acceptable for limited service as an officer of the supply arms and services of the Army, it is revealed in an order issued by the Surgeon General of the Army and published in The Journal of the American Medical Association for March 28.

A wide variety of physical defects which heretofore have stood as a barrier to service in the Army is listed in the order as being considered acceptable for limited service with waiver and in addition there are enumerated a number of conditions on which waiver may be accepted for general military service.

The order is divided into three sections. The first concerns those defects considered acceptable for limited service. These include: overweight to 25 per cent above average weight for age and height, and underweight to 15 per cent below ideal weight, provided chest x-ray examination is negative for disease changes of the lungs and other chronic disease is carefully excluded.

Vision 20/400 in each eye corrected with glasses in possession of the examinee to 20/20 in one eye and to at least 20/40 in the other provided no organic disease of either eye exists.

Blindness, or vision below 20/400, in one eye with vision 20/100 corrected with glasses in possession of the examinee to 20/20 in the other, provided there is no organic disease in the better eye and no history of cataract or other disease in the more defective eye which might be expected to invlove the better one, and provided that, in case of the absence of an eye, the individual is fitted with a satisfactory artificial one.

Complete color blindness.

Hearing 5/20 in each ear for low conversational voice, or complete deafness in one ear with hearing 10/20 or better in the other, provided the defect is not due to active inflammatory disease and is stationary in character.

Loss of one hand, forearm, or lower extremity, provided the lost member is replaced with a satisfactory artificial one.

Flat feet, excessive curvature of the sole of the foot or a club foot in which the individual walks on the toes due to elevation of the heel by contraction of the Achilles tendon, provided the condition is asymptomatic and does not interfere with normal locomotion.

Joints fixed or limited in motion, provided the condition is the result of injury and is nonsymptomatic.

History of gastric or duodenal ulcer, provided there is a trustworthy history of freedom from activity during the preceding five years and provided an x-ray film of the gastrointestinal tract at the time of examination is negative.

The second section of the order concerns conditions considered unacceptable for any service and include:

History of malignant disease within the preceding five years; syphilis, except when adequately treated; instability of the major joints; diabetes of any degree; history of any psychosis.

The third section concerns those conditions which may be recommended for general military service with waiver. They include:

Confirmed positive serologic tests for syphilis with no clinical evidence of the disease, with reliable histories of treatment for the disease and provided that a negative spinal fluid since infection and treatment has been reported from a trustworthy source.

Overweight to 20 per cent above average weight for age and height, and underweight to 12.5 per cent below ideal weight, provided x-ray of the chest is negative for tuberculosis and other chronic disease is carefully excluded.

Insufficient incisor or masticating teeth, provided the mouth is free from extensive infections processes and satisfactory dentures are worn.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federa government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical sevices and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

THE NATIONAL PHYSICIANS COMMITTEE DESERVES SUPPORT

This Journal has on several occasions called the attention of its readers to the origin, purpose, and scope of the National Committee of Physicians. Stated briefly it was conceived by leaders of medicine who realized that the public in general was unfamiliar with the achievements of our profession, that interpretation of the social and economic problems connected with medical service was largely dominated by theorists, sponsored and financed by paternalistic foundations. Constant criticism on existing methods of distribution of medical care, together with alleged deficiencies resulted in a systematic propaganda aimed at the partial or complete destruction of private medical practice.

The extent to which such criticism was swallowed by the credulous citizens of our land may be judged by the disposition of some of our political opportunists ever mindful of the opinions and votes of their constituents. In the past decade few legislative sessions escaped discussions on "medical" bills on the floor or in committees. The National Physicians Committee was organized for the purpose of telling the public the truth about medicine and to take our patients into confidence on the problems facing the profession. The average person feels kindly and respectful toward his doctor. Few people, however, possess sufficient knowledge to understand the innumerable sidelights connected with the practice of medicine. While many modern physicians make a conscious effort to familiarize their patients with some of the problems, most of us have not the time and often not the opportunity to yield recitations covering the various phases of medical history or economics.

Public Relations is a modern science, involving definite and systematized procedure. It is a specialty the merits of which have long been recognized by industrial, cultural, and scientific institutions. It is to our advantage, to acquaint the public truthfully and with all sincerity with our aims and efforts to continue good medical service through the American system of free enterprise.

The National Physicians Committee can do it for us.

Last but by no means least, we owe this information to our patients. And in these days of chaos and uncertainty it is more important than ever that they know the truth about medicine.

FOOD ELEMENTS AND THEIR EFFECT ON RESISTANCE TO INFECTION

Optimum nutrition has long been appreciated as a pre-requisite to health. The recent studies of vitamins, together with the popularization of these important accessory food factors have tended to overshadow the significance of the basic nutritive elements. The carbohydrates, proteins and fats remain the fundamental substances for supplying body needs in energy and repair of tissue. Furthermore, the fats through their lipid fractions have long been credited as being indispensable to the immune system, while the proteins are recognized largely as essential for their amino-acids.

In a recent report, Saks* submitted some interesting findings which throw light on the role of the proteins as contributors to body resistance against infection. The author inoculated albino mice with large lethal doses of virulent pneumococci. The animals had been on special test diets for some weeks prior to the inoculation. Using the post-inoculation survival time as a measure of resistance to infection, this investigator found that nutrition played a great role in general; the better nourished the animal the longer was the survival period.

The most outstanding results were obtained on the animals in the protein experiment group. Mice kept on low protein intake succumbed earlier than the animals whose diet had been restricted in fats and carbohydrates. The low protein group soon developed hypoprotenemia and displayed features similar to the nephrotic syndrome. Conversely animals fed a diet rich in protein survived the longest of any of the others.

These experiments are highly significant. They emphasize the importance of protein as a food essential in satisfying physiological needs for growth and repair. They also stress the necessity of adequate intake of proteins as a means of building and maintaining a satisfactory immunologic system.

In this era of progressively restricted family budgets and constantly increasing sales pressure for "super-vitamins," it would be well for physicians to re-educate their patients on the value of sensible dietary measures. Vitamins have their place on the menu, of course. But let us not forget the meats, fish, eggs, and dairy products.

ECHOES OF THE SEVENTY-FOURTH ANNUAL ASSEMBLY

The total enrollment was 597. This was more than was generally expected in view of war conditions throughout the country and in view also of the general shortage of physicians. The weather, too, was against it. In spite of it all we fell little short of record attendance. Meetings of the House of Delegates were quiet, orderly, without personal or factional demonstrations. The delegates came, transacted their business and adjourned. Discussions were to the point and parliamentary rule was strictly adhered to in the customary Decker espri de corp.

Council meetings, too, were orderly, business being expedited in sequence without fuss and without deviation from the discussion at hand.

The sessions were well attended. The few last minute changes necessitated by war conditions turned out to be excellent papers. One of the high lights of the sessions was the unexpected arrival of Lieutenant-Colonel Sam F. Seely of the Procurement and Assignment Service. Dr. Seely (he prefers to be called doctor to colonel) presented a thorough, but concise paper on the objectives of this Service, much to the satisfaction of the members in attendance. The proposed modification of the setup was emphasized as necessary to cut out the red tape interfering with speedy commissioning of physicians, dentists, and veterinarians who seek admission to the various branches of the army and navy.

The banquet was a complete success, more profitable to some few by virtue of their skill in bingo. Prizes were carried off in the form of food, silverware, cocktail utensils and radios. A good time was had by all.

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*Jour. Pediatrics, Vol. 20, p. 475, April 1942.

A hitherto unknown feature made its appearance at the session. The narrator is not a moralist. It does seem to him, however, that off-colored stories find more appropriate expression in the locker room of country clubs or at private parties than they do at a banquet or at the open sessions of a medical assembly.

The scientific exhibits were missed more than one would suspect. Many physicians apparently accustomed to these exhibits asked for the reason of their discontinuance.

The technical exhibits seemed to be well attended, judging by the crowds at the booths and the bulging pockets of those in attendance. Some even walked around with paper shopping bags, distributed by one exhibitor.

We missed the tomato juice and elixir B_1 this year. The Coca-Cola drinks also were conspicuous by their absence.

The general impression of the whole Assembly was that of a group of serious minded men and women who had come to get something out of the sessions. The narrator is certain that the time was well spent. Above everything else the spirit of comraderie and good fellowship stood out prominently.

The war was uppermost in everyone's mind. The news from the fronts was generally favorable, though many of the members felt, and not a few expressed concern. And what wonder! Some have sons, some brothers, all have friends at one point of combat or another. Let us hope and pray that the seventy-fifth session may be a more cheerful one, and that our country by then shall have come out victorious and that peace and freedom may again be ours.

ANNOUNCEMENTS

Newly Elected Officers of the Nebraska State Medical Association

President-Elect—Dr. A. L. Cooper, Scottsbluff.

Vice Presidents—Dr. Lester Stearns, Kearney and Dr. Walter Benthack, Wayne.

Councilors—

First District — Warren Y. Thompson, Omaha.

Second District—Clayton Andrews, Lincoln.

Third District—W. E. Shook, Shubert.

Fourth District—G. E. Peters, Randolph.

Sixth District—C. W. Way, Wahoo.

Delegate to A. M. A.—Dr. R. W. Fouts, Omaha.

Alternate Delegate to A. M. A.—Dr. C. A. Selby, North Platte.

Committee on Journal and Publication—Dr. W. H. Heine, Fremont.

Vice Speaker of the House of Delegates—Dr. Ted Riddell, Scottsbluff.

Medical Officers Recruiting Board

The Procurement and Assignment Service announces that an office is established to facilitate the immediate commissioning of medical officers in the Army of the United States. The office is located at 621 Medical Arts Bldg., Omaha, Nebr., and is in charge of Major William R. Dwyer, Inf., and Captain Albert V. Murphy, M. C.

The Omaha Mid-West Clinical Society will hold its tenth annual meeting October 26th to 30th, inclusive, in Hotel Paxton.

Following are the names of some of the guest speakers who have accepted invitations to participate in the program:

Dermatology—Francis E. Senear, M. D., Chicago, Illinois.

Eye, Ear, Nose and Throat—Samuel Iglauer, M. D., Cincinnati, Ohio.

Gynecology and Obstetrics — William J. Dieckmann, M. D., Chicago, Illinois.

Medicine—Russell L. Haden, M. D., Cleveland, Ohio, and Elmer L. Sevringhaus, M. D., Madison, Wisconsin.

Neurology—Temple Fay, M. D., Philadelphia.

Orthopedic Surgery—Philip Wilson, M. D., New York City.

Pediatrics—Arild E. Hansen, M. D., Minneapolis, Minnesota.

Radiology—Harry Weber, M. D., Rochester, Minnesota.

Surgery—Fredric W. Bancroft, M. D., New York City, and Frank H. Lahey, M. D., Boston, Massachusetts.

A symposium on "The Newer Concepts Regarding Hypertension and Its Treatment" will be presented Friday, October 30th from 9:00 a. m. to 1:00 p. m. Detailed arrangements have not as yet been completed but will be included in the next announcement.

The annual meeting of the Nebraska Tuberculosis Association will be held at Kearney, Nebraska, June 4, 1942. An all day session for physicians will be held at the State Hospital for Tuberculous. Attending physicians will be guests of the association at the luncheon. Dr. Bruce H. Douglas, Health Commissioner of the City of Detroit, and President of the National Tuberculosis Association, will be guest speaker at the dinner meeting which will be held at Fort Kearney Hotel. A cordial invitation is extended the physicians of the state to attend.

The National Assembly of the International College of Surgeons

The National Assembly of the International College of Surgeons will be held in Denver, Colorado, July 15 to 18 inclusive. Headquarters and meeting place will be the Shirley-Savoy Hotel. The meeting is open to all physicians and surgeons in good standing of the State Medical Association.

A comprehensive program of lectures, clinics, and panel discussions has been arranged, many of the papers dealing directly with the medical war effort. Speakers from all over the country have been secured. It is expected that physicians who attend may be expected to receive ample return from their attendance.

Dr. Charles H. Arnold, of Lincoln, is the Executive Secretary, of the United States chapter.

Hotel reservations should be made directly by addressing the Shirley-Savoy Hotel, Denver.

The Western Branch of the American Urological Association will hold its annual convention this year at Hotel Del Monte, in Del Monte, California, from June 22 to June 24.

The American Congress of Physical Therapy

The American Congress of Physical Therapy will hold its twenty-first annual scientific and clinical session September 9, 10, 11 and 12, 1942 inclusive, at the Hotel William Penn, Pittsburg, Pa. The annual instruction course will be held from 8:00 to 10:30 a. m., and from 1:00 to 2 p. m. during the days of September 9, 10 and 11 and will include a round table discussion group from 9:00 to 10:30 a. m., Thursday, September 10. The scientific and clinical sessions will be given on the remaining portions of these days and Saturday morning. A new feature will be an hour demonstration showing technic from 5:00 to 6:00 p. m. during the days of September 9, 10 and 11. All of these sessions and the seminar will be open to the members of the regular medical profession and their qualified aids. For information concerning the seminar and program of the convention proper, address the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Illinois.

Blood Banks

Regulations for the administration of the Blood and Plasma Bank Program of the Medical Division of the United States Office of Civilian Defense have now been prescribed, and funds are available for grants to assist approved hospitals in establishing blood and plasma banks. Only hospitals within 300 miles of the Atlantic, Pacific or Gulf coasts are eligible for such grants. After July 1, 1942, these geographical restrictions may be modified, so that grants may be made to inland hospitals. Applications should be addressed to the Chief Medical Officer, United States Office of Civilian Defense, Washington, D. C.

Technical manuals on blood and plasma banks, prepared by the Sub-committee on Blood Substitutes of the Division of Medical Sciences, National Research Council are now available for distribution on request of any hospital to the Chief Medical Officer, Office of Civilian Defense.

The Red Cross has established eighteen donor centers in various parts of the country which are successful in obtaining an adequate supply of blood doners for military purposes. Blood for the production of dried plasma for Civilian Defense purposes will also be obtained from these sources.

Hospitals which establish their own blood and plasma banks with the financial assistance of the Office of Civilian Defense are advised to build up their reserves of blood and plasma by expanding blood collection from relatives and friends of patients who are to receive transfusions. A public campaign for volunteer donors which may compete with the work of the Red Cross should be avoided if possible. If public solicitation is necessary, hospitals should appeal to the local chapters of the American Red Cross for assistance in recruiting hospital donors. Blood donor campaigns by agencies other than the Red Cross will tend to confuse the public and may interfere with the blood collection by the Red Cross for the armed forces.

NEWS and VIEWS

The May issue of Reader's Digest carries an interesting account of the work of Dr. Aaron Manasses McMillan who formerly practiced medicine in Omaha. The article was written by Linton Wells and depicted the excellent services rendered by Dr. McMillan in far-off Angola, a Portuguese West African colony. Dr. McMillan has set up a hospital in the jungles.

According to a recent ruling by the attorney-general the board of examiners for mental defectives was advised that it cannot order sterilization of persons who have not been committed to the institution for feeble minded in Beatrice.

More than 2,000 people visited the Healthmobile during its five-day demonstration in Dawson county late in April.

Dr. W. J. McMartin was the guest speaker of the annual sessions of the Arkansas State Medical Association at Hot Springs, early in May.

The reorganization of the medical staff following the resignation of Dr. J. R. Nilsson from the Union Pacific railway resulted in the appointment of Dr. Adolph Sachs, medical director; Dr. J. F. Langdon, chief surgeon; Dr. J. Dewey Bisgard and Dr. Earl A. Connolly, surgeons. All four are from Omaha.

The following item is of interest. It was sent by Dr. Kenneth Prescott of Long Pine. It is self-explanatory.

See Your Doctor During Office Hours

Most professional men are busy after office hours with patriotic enterprises involving the interests of their community.

Your visit to your doctor after office hours may inconvenience many Civilian Defense Workers that are working with him.

Your consultation with a doctor unnecssarily after hours may sabotage his efficiency for the Medical Care of the community. A physically tired doctor is inefficient.

As World War II involves us further many of the doctors are going to be taken from their locations. There is definite need then that you think about conserving the efforts of this small group of trained men in your communities. There are no replacements at this time.

This request does not apply to emergencies of any kind:—medical, dental, obstetrical, or surgical.

This request has been prompted by those thoughtless individuals who demand service after hours. The after hour service is all right where there is a surplus of physicians, but where there is not, these men must be conserved.

Health, Welfare, Consumer Interest Section of Brown County Civilian Defense Committee

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The April issue of the Bulletin of the Indianapolis Better Business Bureau devotes its entire space to "Radiocast Fraud Is Nation Wide." In this bulletin the Better Business Bureau sets forth an account of the quackery device to mulct the gullible sick of this country. To the credit of this organization it should be stated that the Better Business Bureau has instigated an investigation under a committee consisting of prominent physicians, electrical engineers, medical engineers, physical therapists and so on who studied this fraud and submitted an impartial scientific report which is contained in this bulletin.

The Better Business Bureau of Indianapolis as a result of this exposure is now being sued for a quarter of a million dollars.

Nebraskans at the recent sessions of the American College of Physicians in Minneapolis: From Omaha: Augustus David Cloyd, F. Lowell Dunn, John F. Gardiner, Rodney W. Bliss, Frank Conlin, Lynn T. Hall, Maurice C. Howard, John R. Kleyla, R. G. Lewis, M. Margolin, Ben Slutzky, Warren Thompson, Raymond L. Traynor, Edmond Michael Walsh, Raymond Joseph Wyrens, Joseph D. McCarthy, Frederick W. Niehaus, Abraham S. Rubnitz, John Charles Sharpe. From Lincoln: Clarence Kilgore Elliott, H. E. Flansburg, Torrence C. Moyer, J. Marshall Neely, Otto A. G. Reinhard. From Hastings: George L. Pinney. From Columbus: Julian E. Meyer. From Beatrice: J. C. Waddell.

Medical Service

Steadily more physicians from the community of Hastings are responding to the call for the armed services. In addition, almost every doctor in the community is working extra hours, taking care of more civilian patients. teaching first aid classes, examining men for the army or doing other patriotic services.

These men are doing work daily which is an example of the heavy demands on American medicine during a time of war or crisis. Thousands of doctors are being called to duty with the military forces. Tens of thousands of doctors are giving part of their working time to the selective service boards in their respective communities and to other military and quasi-military agencies. There are scores of new burdens for doctors in every section of the country.

This is a fine testimonial to our system of private medicine. Nowhere else in the world are doctors given such rigorous training. Nowhere else in the world are there so many doctors. Nowhere else in the world has there been comparable progress against the bacterial killers. And no other great nation in the world has citizens who, on the average, are as healthy as Americans.

American doctors, American medicine and hospitals deserve much of the credit for this excellent service, with medical men in Hastings contributing their share.—From Hastings Tribune.

In Memoriam . . . .

Blair, E. S.	Wayne	Aug. 7, 1941
Charlton, C. P.	Palmyra	Febr. 17, 1942
Clark, H. L.	Fairbury	Febr. 3, 1942
Cooper, James R.	Richmond, Indiana	Febr. 8, 1942
Copsey, H. A.	Alliance	Jan. 14, 1942
Connell, Karl	New York, N. Y.	Oct. 18, 1941
Fall, C. P.	Beatrice	July 26, 1941
Hansen, E. M.	Lincoln	Nov. 12, 1941
Hardin, Arthur B.	McCook	May 15, 1941
Kieffer, J. J.	West Point	Febr. 16, 1942
King, J. W.	Hartington	Aug. 27, 1941
Langrall, C. D. D. M. S.	Council Bluffs, Ia.	Dec. 26, 1941
Longacre, C. H.	Lincoln	Dec. 8, 1941
McIntyre, B. M.	Winside	Nov. 8, 1941
Miller, E. E.	David City	Febr. 24, 1942
Montgomery, A. W.	Stella	Dec. 1940
Mullen, Thos. R.	Omaha	April 29, 1941
Newell, C. H.	Omaha	April 2, 1942
Panter, S. G.	Lincoln	March 17, 1941
Peters, J. A.	Springfield	Jan. 15, 1941
Priest, W. H.	Mitchell	Oct. 26, 1941
Reed, F. P.	Stockton, Calif.	Febr. 7, 1942
Sawyer, R. E.	Franklin	Jan. 3, 1941
Sidwell, L. T.	Pomona, Calif.	April 11, 1941
Snyder, F. G.	York	Sept. 2, 1941
Sumner, Ella P.	Hastings	May 10, 1941
Thomas, M. U.	Weeping Water	Febr. 28, 1942

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Second Vice-President—Mrs. Charles Arnold
2480 Lake, Lincoln, Nebr.
Secretary—Mrs. O. A. Reinhard
2833 Sheridan, Lincoln, Nebr.
Treasurer—Mrs. K. F. McDermott
518 South Clay, Grand Island, Nebr.
Historian—Mrs. Floyd Rogers
3015 Stratford, Lincoln, Nebr.

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

The Auxiliary to the Nebraska State Medical Society held their annual business meeting Wednesday, May 6, 1942, at the Hotel Fontenelle in Omaha, with Mrs. M. C. Green, President presiding. Reports were given by the Chairman of Standing Committees and County Presidents. It was agreed to pledge $125.00 to the Student Loan fund and to purchase two $75.00 war bonds.

The following officers were chosen for the coming year:

President____________Mrs. Walter Carveth, Lincoln
President-elect__________Mrs. A. L. Miller, Kimball
First Vice President____Mrs. Herbert Davis, Omaha
Second Vice President____Mrs. C. H. Arnold, Lincoln
Treasurer______Mrs. K. F. McDermott, Grand Island

One year directors: Mrs. D. B. Wengert, St. Paul; Mrs. Clayton Andrews, Lincoln.

Two year directors: Mrs. S. O. Harris, Chappell; Mrs. Clarence Rubendahl, Omaha.

THE NEBRASKA POST GRADUATE STUDY GUILD

The Nebraska Post Graduate Study Guild of the International College of Surgeons held its fifth meeting on April 16, 1942, at Lincoln. Clinics were held at St. Elizabeths Hospital and the evening session at the Cornhusker Hotel. About two hundred attended. The clinics consisted of operations and demonstrations by local surgeons. An interesting session at lunch consisted of a confessional at which everyone in attendance was asked to present briefly a typewritten account of some mistake in his practice and the lessons learned therefrom. This was followed by a discussion of some of the papers submitted. Dr. E. C. Henry, president of the Guild presided. The afternoon was devoted to a review of the clinics held in the morning, followed by a dry clinic presented by Dr. Andre Crotti.

Thursday evening all in attendance were the guests of Dr. Charles H. Arnold at a banquet in the Cornhusker Hotel. Dr. Arnold was toastmaster and he introduced Dr. W. Andrew Bunton of Cheyenne, Wyoming, who appeared in costume and sang a group of western songs. Dr. Bunton is a former Nebraskan who graduated from the University of Nebraska medical college in 1920.

The major event of the evening was an address by Dr. Andre Crotti of Columbus, Ohio, who had been associated with Dr. Theodore Kocher of Berne, Switzerland. Dr. Crotti had brought with him his associate, Dr. John E. Breggs of Columbus. Dr. Crotti's topic was "Some of the Latest Aspects of the Cancer Problem," a remarkable dissertation on recent theories and practical considerations of the disease.

The committee on arrangements is to be congratulated upon the program. The profession is grateful to the men in this state who exercised their talents and abilities unselfishly in order to present post-graduate facilities in medical studies to the various sections of Nebraska.

A Plan for Reducing Mortality Rate of Appendical Perintonitis

A plan for the reduction of the mortality from appendical peritonitis which they say has proved workable in Pennsylvania, is presented in The Journal of the American Medical Association for April 11 by J. O. Bower, M. D.; L. A. Terzian, Sc. D.; J. C. Burns, M. D.; H. B. Trachtenberg, M. D., and A. E. Pearce, M. D., Philadelphia.

They found that induced peritonitis in dogs produces tissue and body fluid changes similar to those observed in cases of appendical peritonitis in man, making possible the evaluation of agents used to combat the condition. They say preperforative and appendical peritonitis in man and induced peritonitis in dogs show blood and body fluid changes similar to those observed in cases of shock.

The administration by vein of lyophilized convalescent peritonitis plasma is advised by the authors in the treatment of patients suffering with appendical peritonitis. By using pooled convalescent plasma, instead of whole blood, immediate administration is possible and the likelihood of reactions is diminished, they explain, adding that the special process (lyophilization) does not affect the specific antibody content of plasma.

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Internes and Students	10
Guests	21
Exhibitors	68
Auxiliary	67
Grand Total	597

STATE HEALTH DEPARTMENT NOTES

Dr. A. L. Miller, Director of the State Department of Health, wishes to call the attention of the physicians to the following facts:

1. A new program is being initiated in regard to the control, the reporting, and treatment, as well as case finding, in connection with venereal disease in the State. The laboratory report is not a case number. A case may be reported either by number or name, preferably by name. Under the rules and regulations, all positive reports of venereal disease must be reported on the official form as provided by the United States Public Health Service. Upon receipt of the official report, the State Health Department will furnish free medication if requested.

2. The rules and regulations provide for the issuance of a health warrant for those actively infected cases who refuse examination or treatment. They can be quarantined just the same as any other contagious or infectious disease. The health warrant is issued upon the advice of the State Department of Health. We hope it will not be necessary to enforce this provision of the rules. The law declares venereal disease—syphilis, gonorrhea, and chancroid, "to be contagious, infectious, communicable, and dangerous to public health." The law, Section 71-2902, states "The State Department of Health is hereby empowered, and it should be its duty, to make such rules and regulations as shall in its judgment be necessary to control and suppress venereal disease." A penalty is attached for noncompliance. The military officers are insisting that strict enforcement of laws relative to the control of venereal disease be enforced.

The Rules and Regulations Relating to Public Health have been mailed to all physicians and boards of health. They should act as a physician's guide in handling the problems relative to communicable and infectious diseases. We desire to call the attention of the physician to their duty of reporting all communicable diseases to the proper health authority in the community. In the cities, the board of health consists of the mayor, the chief of police, and a physician. In the county, the sheriff is chairman of the board, and the county superintendent is the secretary. A physician is appointed by the board of commissioners or supervisors. The law makes it mandatory that all diseases be promptly reported. We ask that physicians continue to assist this Department in getting an accurate picture of communicable and infectious diseases.

4. The following reportable diseases are listed as communicable and dangerous to public health:

Actinomycocis
Anthrax
Chickenpox (Varicella)
Diphtheria
Dysentery (Bacillary)
Dysentery (Amebic)
Encephalitis (Infectious)
Erysipelas
Glanders
Influenza
Jaundice (Weil's Disease)
Leprosy
Malaria
Measles
Meningococcus Meningitis
Mumps
Opthalmia Neonatorum
Paratyphoid Fever
Plague
Pneumonia (Acute)
Poliomyelitis (Acute)
Rabies (Human)
Rocky Mountain Spotted Fever
Scarlet Fever
Septic Sore Throat
Smallpox (Variola)
Tetanus
Trachoma
Trichinosis
Tuberculosis
Tularemia
Undulant Fever
Whooping Cough (Pertussia)

These diseases should be promptly reported. May we ask your continued cooperation and understanding.

The above list includes the following but are reported directly to the State Department of Health.

Chancroid
Gonorrhea
Syphilis

The following diseases are dangerous to public health but not communicable.

Botulism
Mass Food Poisoning

BOOK REVIEW

Wounds and Fractures, a Clinical Guide to Civil and Military Practice by H. Winnett Orr, Lincoln, Nebr., M. D. F. A. C. S., Chief Surgeon, Nebraska Orthopedic Hospital, Fellow of the American College of Surgeons; Members of the International Society of Orthopaedic Surgery; of the American Orthopaedic Association; of the American Academy of Orthopaedic Surgeons. Published in 1941 by Charles C. Thomas, Springfield, Ill., 227 pages, price $5.00, postpaid.

From his military and civilian experience, the author has compiled a very timely text. The use of his principles, namely wide open drainage and rigid immobilization for compound fractures, whether by plaster alone or with addition of skeletal fixation, is discussed in detail for all possible situations. Preference for pins rather than wires or tongs is expressed. Detailed case reports are presented. Especially valuable is the chapter on malunion and non-union where spectacular results are presented. The author ascribes these to the principles of absolute rest of injured tissues and to the absence of interference from external sources.

Stress is placed on primary bone healing regardless of the time necessary to obtain this; only secondary consideration is given to possible joint stiffness from immobilizing apparatus as it is the author's experience that these joints recover gradually under functional stimulation after bone healing.

The text illustrates the efficiency of the Orr method of treatment and the reasons for its use in all military circles at this time. With the continuation of these favorable reports, this text is, and will continue to be, a valuable addition to any traumatic surgeon's library.

W. R. Hamsa, M. D.

NEBRASKANS IN THE SERVICE

Dr. Roy S. Cram of Burwell is a captain in the U. S. army.

Dr. Daniel E. Egbert is a major located at Fort Snelling, Minn.

Dr. J. F. Gamble is a captain serving at Camp Barkeley, Texas.

Dr. D. W. Kingsley of Hastings is a captain in the medical corps.

Dr. W. J. Holden is now stationed at Camp Chaffe, Fort Smith, Arkansas.

Dr. H. Elias of Wymore is a major in the army serving at Fort Crook.

Dr. A. F. Jonas of Omaha is with the Johns Hopkins base hospital unit.

Dr. G. F. Waltemath of North Platte is a lieutenant in the U. S. navy.

Dr. Bernard Harvey of Gothenburg is a major in the army serving in Bermuda.

Dr. Frank Raasch of Kearney is a major in the army stationed in Washington.

Lt. John D. LeMar is now stationed at Station Hospital, Camp Walters, Texas.

Lt. Frank J. Klabenes left Omaha, May 8 for Camp Haan, Riverside, California.

Dr. A. H. Fechner of Lincoln is at the Great Lakes Naval Training station in Chicago.

Dr. Henry J. Lehnhoff of Lincoln is a first lieutenant on duty in Atlanta, Georgia.

Major C. C. Hardy left Omaha, May 18th, for Sheppard Field, Wichita Falls, Texas.

Lt. Samuel Z. Faier left Omaha April 20 for Station Hospital, Fort Sam Houston, Texas.

Dr. H. H. Morrow of Fremont is a first lieutenant stationed at Key Field, Meridian, Mississippi.

Lt. Frank Iwersen is stationed at U. S. Naval Air Station Dispensary, San Diego, California.

Dr. John Easley of Lincoln is a captain in the medical corps serving at Randolph Field, Texas.

Dr. D. H. Morgan of McCook is a lieutenant commander in the naval base hospital, Great Lakes.

Dr. Clarence R. Brott is a captain in the medical corps of the army stationed at Fort Leonard Wood.

Dr. William Hay of Laurel is a major in the medical corps serving with the Harvard base hospital unit.

Dr. John A. Jimerson of Peru, Nebraska, is a captain in the air corps, stationed at Miami Beach, Florida.

Dr. Maurice M. Steinberg who has been stationed at Ft. Leavenworth, Kansas during the past year, has been transferred.

Dr. E. E. Koebbe of Columbus is a Lieut. Commander in the navy, located at the U. S. naval hospital at the Great Lakes Training Station.

Captain Louis Cohen, formerly of Veterans Facility, North Little Rock, Arkansas, is now at O'Reilly General Hospital, Springfield, Missouri.

Dr. Earl C. Slaughter, a Norfolk product, graduated from the medical department of the U. S. army at Carlisle Barracks, Pennsylvania on May 2. Dr. Slaughter is a captain.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. C. H. Fox of Kearney has retired from practice.

Dr. R. R. Seasongood formerly of Shenadoah, Iowa, has located in Wayne.

The office of Dr. C. G. Moore of Fremont was robbed during the noon hour of April 22.

Dr. L. L. Arntsen was elected Chief of Staff of the newly reorganized Nicholas Senn hospital.

Dr. J. B. Redfield of North Platte addressed the Kiwanis club April 22 on the subject of cancer.

Dr. Frank A. Morrison, a native of Bradshaw has become associated with the Olney Clinic of Lincoln.

Dr. C. C. Lull of Beaver City addressed the Women's Club on medical experiences in the first world war.

Dr. A. L. Smith of Lincoln addressed the Knife and Fork club on heart diseases that appear in middle age.

Dr. Thornell Mauer of Omaha attended the meeting of the Central State Society of Industrial Medicine and Surgery in Chicago early in May.

Dr. Otto Kanner of the Hastings State Hospital on April 16 addressed the Women's Council of the First Christian Church on "History and We."

Dr. Kenneth Loder of New York recently visited in Norfolk. He attended the seventy-fourth annual sessions with his father-in-law, Dr. George Charlton.

Dr. John C. Sharpe and family have moved to California. They will reside at Westwood Hills, and the doctor will practice at 601 Wilshire Medical Arts Bldg., Los Angeles.

"Blood Banks" was a subject presented by Dr. Isaiah Lukins of Tekamah before the Lions Club. Dr. Lukens recently spent some time in post graduate work at the University of Minnesota.

Dr. Gregory Endres of Omaha is the new director of health at the Dodge-Saunders counties health unit, Dr. Endres graduated from the University of Nebraska Medical College, practiced for some years in Omaha then joined the Public Health Service and was located in Texas until he was recalled to Nebraska.

We are reporting the death on June 21, 1941, of Mrs. May Kirtland Seely, wife of Dr. Henry H. Seely, of Harvard, Nebraska.

From Richmond, Vermont, Dr. and Mrs. Seely came to Harvard in 1910, where Dr. Seely continued his practice until the death of his wife. Following this, he retired from practice, and moved to 1124 C 17th Street, Santa Monica, California, to be near his daughters, both of whom live in this locality.

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Journal Points Out the Importance of Sanitation of Eating Utensils

Managers of public eating and drinking establishments should have their attention called to the glaring opportunities for the dissemination of infection due to inadequate methods of dish washing, The Journal of the American Medical Association for March 21 declares in an editorial. The Journal says:

"An immense increase in travel by rail, ship, plane and motor car and the urbanization of the population have induced millions of people to eat often away from home. The sanitary control of public eating and drinking establishments is an important public health problem.

"In fifty-five eating places in Providence, R. I., the methods of dish washing and the presence on eating utensils of various organisms were investigated. Controlled laboratory experiments were used to determine the requirements for chemical sterilization of glasses with chlorine compounds. An effort was made to educate the managers and employees in the essentials of sanitation and personal hygiene. The investigators visited each establishment twice. They frequently found unclean walls, ceilings and floors, flies in excessive numbers and toilets in poor repair.

"The most important single cause of insanitary practice was the abysmal ignorance of managers and employees of accepted sanitary requirements and procedures. The so-called health card required of all employees in these public eating places had degenerated into a mere formality and was without practical significance. The period of exposing eating utensils to hot water or chemical disinfectants was extremely variable and in most instances far too short to insure effective disinfection. The total bacteriologic count was considered a satisfactory index of the sanitary efficiency of methods employed in washing eating utensils. . . .

"The use of chlorine compounds for the disinfection of beverage glasses can be an effective method providing relatively sterile glasses. However, most of the establishments using chlorine disinfection were guilty of gross misuse of this procedure. A concentration of fifty parts per million of available chlorine acting for fifteen seconds was sufficient to cause a reduction of 99.9 per cent in the bacterial counts of beverage glasses artificially contaminated with Staphylococcus aureus and Aerobacter aerogenes when the glasses were freed from organic matter before being immersed in the chlorine solution at a temperature of 59F. Proof of the relationship between methods of dish washing and the spread of disease in the community is difficult; nevertheless, any physician who visits eating places during rush periods will occasionally detect obvious evidence of the seriousness of this sanitary defect in public eating and drinking establishments. In these times, attention of managers should be called propmtly to such glaring opportunities for dissemination of infection."

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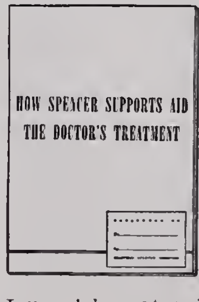
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THE NEBRASKA STATE
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Fractures about the Elbow Joint Especially in Children[*]

H. EARLE CONWELL, M. D., F. A. C. S.
Birmingham, Alabama

A fracture about the elbow joint is one of the most common fractures encountered. It has been my privilege to observe more than 1,000 fractures about the elbow and it has been my feeling that fractures about this joint have been more severe in the last few years than ever before, a fact which can mainly be attributed to automobile accidents.

It is obviously impossible in the short space allotted to cover fully fractures about the elbow joint. I have, indeed, selected a very ambiguous field, but I believe I could not select a more important subject. Fractures about the elbow joint include those of the lower end of the humerus, the head of the radius, and the elecranon process of the ulna. Fractures at the lower end of the humerus can be divided into two main types, the extension and the flexion types, the extension type being more prevalent. The supracondylar fractures of the humerus, the extension type, is one of the most common types of fractures through the lower end of the humerus. This fracture is more commonly seen in childhood or adolescence. The next most common type is the transverse or dicondylar fracture of the lower end of the humerus which has been described as a separate clinical entity by Kocher, Ashurst and Chutre. The fracture line lies just above the epiphyseal line, courses transversely across the lower part of the bone passes through one or both condyles, and is always intraarticular as it passes through the coronoid and olecranon fossae. The mechanism of production, displacements, and soft part injuries are generally similar to those in the typical supracondylar fracture.

The next type of fracture most commonly seen is the epiphyseal separation of the lower end of the humerus. Up to the age of 4 or 5 years the entire cartilage plat of the articular surface of the lower end of the humerus tends to be separated in one piece, but after this time in lesions at the epiphyseal line the external condyle is broken off from the shaft and the epiphyseal cartilage is split, leaving the thin thorchlear portion attached to the shaft. From the surgical standpoint the small center of ossification in the trochlear portion of the epiphyseal cartilage is of no importance since it is practically never injured alone and rarely separated with the center for the capitellum.

Next we have the hyperextension type of fracture at the lower end of the humerus divided into the same subdivision as in the extension type.

Treatment of any of the previously described fractures can either be one of the easiest or the most difficult. Occasionally, one sees a supracondylar fracture in which the bones are in approximately normal relations. In such instances all that is necessary is to flex the elbow and apply some type of dressing which maintains the flexion. As there is relatively little swelling in this type of injury, acute flexion at the elbow may be instituted from the beginning and adhesive dressing applied with the forearm flexed at the elbow in the so-called Jones position. It is needless here to impress upon you the importance of the close observation of circulation in the forearm when flexion is carried out at the elbow. This warning should be carried throughout and used in every type of treatment as regards the position of the forearm when treating a fracture about the elbow joint.

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[*] Read before the Omaha Mid-West Clinical Society, Omaha, Nebr., Oct. 27, 1941.

In reducing the supracondylar fractures with displacement, muscle reaction is imperative. An assistant fixes the arm and the surgeon grasps the forearm with one hand and slowly hyperextends the elbow and applys moderate traction to pull the lower fragment down. As the lower fragment is pulled down the surgeon uses his other hand to manipulate the fragment into position, first correcting any lateral or rotary displacement and getting them in line, then he pushes the lower fragment forward and presses the lower end of the upper fragment backward and holds them in position while he gently flexes the forearm which is held in pronation and in the neutral position as regards rotation, that is, between pronation and supination, because full supination tends to cause adduction of the lower fragment. If the displacement has been reduced flexion will be free except as limited by the swelling.

The degree of flexion in which to immobilize the forearm varies inversely with the swelling and must be determined by trial as too much flexion not only interferes with the venous return from the forearm, but may even obliterate the radial pulse. Too often a great deal of emphasis is placed on the position of acute flexion of the forearm in the treatment of fractures through the lower end of the humerus. This is dangerous and may cause ischemic paralysis or even gangrene. The circulation must not be blocked by the position. The fracture is immobilized in as much flexion as can be maintained with safety and the acute flexion is obtained later after the swelling has decreased. Acute flexion will not accomplish reduction and is not always necessary to maintain reduction after it has been obtained. In certain cases the distal fragment may slip back a little or tilt back and these cases may have to have another anesthetic and the defect should always be corrected when possible, but it is much better to do this than to risk an ischemic paralysis or gangrene by jamming the acutely swollen elbow up into position of acute flexion and holding it there while the patient's severe pain is ignored or relieved by morphine.

As previously stated one of the most efficient types of dressing to be used in such type fracture is adhesive dressing after which the arm can be strapped to the body or be carried in a sling. After the swelling has subsided a posterior plaster mold splint to the arm and forearm can be applied and the arm kept in a sling or strapped to the body. By so doing circulation of the elbow and forearm can always be observed.

Occasionally, one encounters a fracture of the lower end of the humerus in which the swelling is so great that the immediate concern of the surgeon is to save the arm rather than to reduce the fracture. These are severe fractures which have been present for several hours. The reaction of the elbow is enormously swollen and the swelling involves the arm, forearm and hand. The hand is cold and cyanotic and the radial pulse can not usually be felt. It is necessary in such type case to relieve the tension at the elbow region. One of the most applicable forms of treatment in such type injury is to apply traction to the forearm with the forearm in practically a fully extended position and the arm elevated to about a 45 degree angle. In many instances the author has aspirated such elbows. The spot for aspiration is usually selected over the lateral border of the tendon of the triceps. A rather large needle is introduced and as much blood as possible is removed. If the aspiration does not relieve the tension the skin and fascia should be incised under local anesthetic and the hematoma drained. Fortunately, this type of case is rarely seen.

In the reduction of the flexion type of supracondylar fracture which is rare and is diagnosed on palpation by noting that the upper end of the distal fragment is felt in front of the elbow beneath the biceps tendon the procedures are reversed to these in the extension or pyperextension type and the aftr treatment is the same.

It is needless for me to emphasize the importance of skeletal traction in the treatment of severely compound or the compound comminuted fractures of the lower end of the humerus. We have used with much success, as Key and others recommend, sulfanilamide, as well as, sulfathiazole in the compound fractures. Fixation can later be carried out in plaster cast after sufficient callous formation has occurred.

Fracture of the internal condyle of the humerus is a rare lesion. The diagnosis may usually be made on a complete disability of the elbow with the arm being carried in the position of slight flexion. If the fragment is not displaced all that is necessary is to immobilize the forearm in a posterior plaster mold for about three or four weeks. This mold should reach from the upper part of the arm to the fingers and the forearm should be flexed from 90 to 110 degrees. When there is a gross displacement of the condyle treatment is difficult and even in the best conservative type of treatment non-union is frequently experienced. It has been the author's experience that most of these cases demand open reduction.

Fracture of the external condyle is more rare than fracture of the internal condyle. Treatment consists of immobilization of the fracture in the position of acute flexion and full supination. If there is a tendency for continued displacement open reduction is indicated.

Fracture of the capitellum is also a very rare injury in which a piece of the articular surface of the capitellum is broken off and displaced anteriorly in front of the lower end of the proximal fragment or set free in the joint cavity where it may wander backward or forward and block flexion. If the fragment is large it may be possible by direct pressure to push it back in place while the pronated forearm is adducted and slightly flexed and immobilized in moderately acute flexion of the forearm. If the above, however, is impossible and the loose fragments remain free in the joint, and which probably have no blood supply anyhow and are not even likely to unite if they are reduced and on account of this, arthrotomy of the elbow joint should be carried out and the fragment removed.

In fractures of the upper end of the ulna without separation of the fragment, all that is necessary is to immobilize the elbow in a position of slight flexion over a period of four weeks, cast extending from the axilla to the hand. Most cases, however, of fractures of the olecranon demand an open reduction. When the space between the fragments is a fraction of an inch or more separated open operation should be carried out. The fracture is exposed through a posterior longitudinal or U incision and any completely loose fragments of bone are removed and the other fragments are approximated with stainless steel wire. Early motion is always indicated which should be commenced within a week or ten days following operation.

In separations of the epiphysis of the olecranon the symptoms are usually relatively mild with moderate swelling and tenderness along the tip of the olecranon with loss of power in extension and pain on flexion of the elbow. Treatment here is conservative. All that is necessary is the immobilization of the elbow in full extension for three or four weeks and thereafter placing the arm in a triangular sling and commence gradual active motion.

Fracture of the coronoid process is a relatively rare injury and occurs usually as a complication of the posterior dislocation of the elbow. The tip may be torn off or the fracture may be transverse or oblique. The treatment is immobilization in a posterior plaster mold and in as much flexion as is permitted thereafter, the arm is gradually extended, in two or three weeks after which time active motion, sling and local heat are indicated.

Fractures of the head and neck of the radius were formerly regarded as rare injuries, but with the increasing use of x-rays it is found that they occur rather frequently not only as isolated injuries, but as complications of severe fractures and dislocations involving the elbow, mainly, the automobile window elbow. Here we see the radial head either dislocated or badly comminuted with associated compound comminuted fracture of the olecranon and lower end of the humerus. Fractures about the head of the radius may be divided, (1) in fractures of the head of the radius, (2) separation of the upper epiphysis of the radius and (3) fractures of the neck of the radius, but since all of these lie so closely together and are so frequently combined we shall consider them only under one heading. The treatment of these injuries may be divided into three groups, those in which conservative treatment is indicated, those in which operative treatment is indicated and those border line cases in which the surgeon is justified in treating conservatively with the expectation that it may be necessary to remove the head later on.

When the head of the radius is comminuted or when a piece including as much as a third of the head is broken off and displaced or when the neck is fractured and the head is displaced or tilted in such a manner that its surface no longer fits the capitellum and the lesser sigmoid of the ulna the fracture should be operated upon. Operative treatment is necessary because the continued displacement not only results in limitation of the elbow and forearm, but thereby being the cause of considerable pain and disability. The operation should be performed as soon after the injury as possible unless the general and local physical condition contraindicates.

In those fractures in which a small portion of the bone is broken off or in which the displacement is slight the surgeon is justified in using conservative treatment until it has been determined whether or not marked limitation of motion will result, but he should not wait until a chronic condition of the elbow exists.

The author has had the opportunity of seeing several cases of dislocations of the epiphsis of the upper end of the radius which have been treated both by open and closed reduction with success in most cases.

Dislocations of the elbow occur more frequently than in any other joint in the body, except the shoulder. This is probably due to the exposed position of the joint and due to the fact that it is subjected to tremendous leverage in hyperextension injuries. Backward dislocation of both bones of the forearm is by far the most frequent type of dislocation. The next most frequent is a forward dislocation of the head of the radius alone. All other forms of dislocations of this joint are rare injuries, they include backward or outward dislocations of the head of the radius alone, backward or inward dislocations of the upper end of the radius alone, and forward and lateral, or divergent dislocations of both bones of the forearm upon the humerus.

Muscular relaxation is essential in the reduction of any of these dislocations. In the posterior dislocation the surgeon grasps the wrist with one hand and places his other hand over the upper end of the forearm at the bend of the elbow, the patient's fôrearm is then supinated fully to relax the biceps and is extended to the point where further motion is checked by the elastic resistance of the muscles. Having placed the forearm in the above position the surgeon is now ready to proceed with the actual reduction. This is accomplished by three manipulations. First the upper end of the patient's forearm is pushed directly backward by the surgeon's hand which is placed at the bend of the patient's elbow. This will lift the coronoid out of the olecranon fossa and enable it and the head of the radius to slip over the expanded lower end of the humerus. Second, while the backward pressure is maintained traction is made by the surgeon's hand which grasps the patient's wrist, this is slow, steady and powerful enough to draw the forearm forward on the humerus. Third having unlocked the bones of the forearm and drawn them forward and backward pressure and traction are continued while the forearm is slowly flexed. Usually at the beginning of the flexion a slight click will be felt and after this practically no resistance will be encountered in flexion. When this occurs the reduction is complete. The reduction having been accomplished the elbow should be immobilized in as much flexion as is safe to use in the presence of whatever swelling may have occurred. The flexion may be maintained either by a posterior plaster mold or plaster splint, preferably the latter and the flexion position should be maintained for at least ten days or two weeks with gradual extension being carried out thereafter.

The treatment of the anterior dislocation of the elbow which is a very rare injury is the reverse manipulations for reducing a posterior elbow dislocation.

* * *

Parrot Fever from Common Pigeons

The case of a policeman with psittacosis whose only known contact with birds was with common pigeons, is reported in The Journal of the American Medical Association for April 4 by Henry Alicandri, M. D., Brooklyn. He points out that the disease, which is highly communicable, has been transmitted to man by parrots, parakeets, love birds and rarer birds of the parrot family and that this isolated case warrants closer investigation of pigeons as a possible source of infection.

Medical Licensure in Nebraska*

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On the third of last March, the medical licensure system of Nebraska had a birthday. It was sixty-one years old. It has had an evolutionary growth, as is true of similar systems in other States. For the most part there has been a constant growth in the interest of public welfare, a development from an infancy in which the requirements imposed by the State on persons who desired to treat the sick were exceedingly elemental and easy to meet, to the stature that the system has obtained today. As in the case of the development of human beings, there have been happenings in this growth that have hindered progress, that have prevented a full realization of the accomplishments at which medical licensure laws are aimed.

Human beings are subject to accidental injuries, to injuries deliberately inflicted and to diseases of various descriptions. Licensure systems do not always escape similar disturbing interludes. Tonight I wish to give you a kaleidoscopic view of the history of medical licensure in Nebraska and to spotlight some of the accidents and diseases with which the system has been afflicted during its sixty-one years of growth.

Nebraska was organized as a Territory on May 30, 1854, being a part of the Louisiana purchase consummated in 1803. It was admitted to Statehood March 1, 1867, the thirty-seventh State to be admitted to the Union. Fourteen years and two days after admission as a State, the first law regulating the practice of medicine was approved by Governor Albinus Nance, of Osceola, Polk County, on March 3, 1881.

This law imposed a duty on every person claiming to be a physician and intending to practice medicine, surgery or obstetrics in Nebraska to register as a physician by filing with the county clerk of the county in which he resided or in which he intended to practice, a statement, in writing and under oath or affirmation, giving his full name, age, place of birth, place of residence, place of business, the extent to which he had practiced medicine and when and where he had so practiced, and the time of such practice in each place. It was also required that the physician state whether he had been a member of any medical society and the name and location of such society. And finally a statement had to be made as to whether the registrant was a graduate of any medical college or university, the date of his graduation, and the name and location of the school of graduation. The county clerk was required to record the statement in a book designated as "The Physician's Register." If any physician made a false statement in connection with the data he was required to file, he was guilty of a felony and was subject to the same penalties that attached to the crime of perjury.

Before a physician could effect registration and thus obtain the legal right to practice medicine, it was required that he possess certain qualifications. Stated disjunctively, these were:

1. He must have graduated from a legally chartered medical college or institution having authority to grant the degree of doctor of medicine; or

2. He must have attended one full course of lectures in a legally chartered medical college or institution having authority to confer the degree of Doctor of Medicine, and, in addition, must have practiced medicine continuously for three years, the last year of practice having been in Nebraska; or

3. He must have, at the time of the effective date of the act, engaged in the practice of medicine, surgery or obstetrics for a livelihood for a period of ten years, the last two of which years must have been in Nebraska. If a registrant moved from one county to another he was required to procure a certified copy of the record of his former registry and cause such transcript to be filed in the county to which he moved. Nonresidents of Nebraska on March 3, 1881, could be admitted to registration or authorized to practice in the State only if they had received a degree of doctor of medicine from a legally chartered medical college or instituion having authority to grant the degree.

As an added inducement for registration, this first medical practice act provided that unless a physician registered in accordance with its requirements, he was not permitted to recover in any court in the State any sum of money whatever for medical, surgical or obstetrical services rendered. The other penalty for practicing without registration was a fine of not less than $20 nor more than $100.

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*Read before the Nebraska State Medical Association Annual Session, May 5, 1942.

Exempted from the operation of this act were students practicing under the supervision of a registered preceptor, gratuitous services rendered in cases of emergency, and commissioned surgeons in the United States Army and Navy. The final section of the act dealt with the problem of the then ubiquitous itinerant vendor of nostrums.

Thus was initiated in Nebraska what we now refer to as a medical licensure system. Actually, of course, this first act imposed no licensure requirement at all. It exacted no examination. It required only county recordation of a statement by the physician as to his qualifications. It created no central agency to supervise registration. It contained no provision under which a registration once lawfully effected could be vitiated for any cause whatsoever. In referring to these absent features, I do so in no spirit of criticism, for this modest beginning in Nebraska has a counterpart in the beginning of medical licensure in each of the other States. But on this foundation rests the whole structure that has developed in Nebraska through the succeeding six decades.

It was not long before the process of building on this foundation started. Two years later Governor James W. Dawes, of Crete, Saline County, on March 1, 1883, approved an act which permitted registration of persons who could present documentary evidence that they had passed a satisfactory examination before medical examining boards of other states. In this provision is recognized, of course, the beginning of medical reciprocity in Nebraska. By this amendatory act, too, the registration of all surgeons and assistant surgeons who were commissioned and served as such in the "late war of the rebellion" was permitted.

For a period of eight years the status quo was maintained. Then, by an act approved by Governor James E. Boyd, of Omaha, on March 27, 1891, a state board of health was created. On this newly created central agency was devolved the responsibility of enforcing the laws regulating the practice of medicine. Authority was given to the board to appoint four secretaries, all to be graduate physicians, two of the so-called regular school of medicine, one of the eclectic school and one of the homeopathic school. These four secretaries constituted the beginning of the medical examining board as we know it to be today.

The same law by which the state board of health was created also revamped the rudimentary medical practice act. A person desiring to practice had to acquire a certificate from the board, signed by the four secretaries. To obtain the certificate, graduation from a medical school in good standing as determined by the board was a prerequisite. There was no examination requirement. Prior non-graduate practitioners were issued certificates notwithstanding the diploma requirement contained in the new law. The board was authorized to refuse certificates to persons guilty of unprofessional or dishonorable conduct and to revoke certificates for the same causes. The power that the present licensing agency now possesses to refuse to issue licenses and to revoke licenses once issued stems therefore, from this provision in the law of 1891.

A medical school in good standing was defined as a school requiring a preliminary examination for admission and for graduation, three courses of lectures of six months each, no two of such courses to be given in any one year. The subjects to be taught in the school were specified as anatomy, physiology, chemistry, toxicology, pathology, hygiene, materia medica, therapeutics, obstetrics, gynecology, principles and practice of medicine and surgery, and clinical instruction in the last two named.

Then, six years elapsed. In 1897, the legislature strengthened the protective features of the act by requiring the school of graduation to give at least four courses of lectures, instead of three, of six months each, no two courses to be given in the same year. Bacteriology and medical jurisprudence were added as required subjects to be taught in the school of graduation.

For the present we pass over the legislative year of 1901. An important forward step, however, was taken in 1903 when an examination requirement, as a condition to licensure, was superimposed on the graduation requirement and the causes for which a license could be revoked or refused were enlarged to substantially the same causes for which similar action may be taken at the present time. A person desiring to practice medicine was required to apply to the state board of health, submitting proof that he was a graduate of a medical school or college in good standing as defined in the then existing law. If the board found the credentials to be in good order, the applicant was notified to appear before it for examination. Examinations could be wholly or in part in writing and were to be of such a character as sufficiently to test the qualifications of the candidate "as a practitioner." The law did not specify the subjects in which an applicant was examined but described them generally as those subjects and topics, a knowledge of which was commonly and generally required of candidates for the degree of doctor of medicine, by reputable medical colleges in the United States.

The license was issued under the seal of the state board of health, signed by the four secretaries, and the licentiate was required to file the certificate or a copy in the office of the county clerk of the county in which he resided or in which he intended to practice.

Six years later, in 1909, the duty of appointing the four secretaries of the state board of health was transferred from the board to the governor.

From 1897 to 1911, a period of 14 years, the statutory description of a medical school in good standing, the graduates from which were acceptable for licensure, underwent no change. In the latter year, the legislature extensively revised that description. The term "medical school or college in good standing" was defined as: (1) a school or college requiring for admission at least a diploma from an accredited high school or a certificate from the state superintendent of public instruction showing that the applicant had successfully passed an examination covering the branches of study embraced in an accredited high school course; (2) a school showing "evidence of modern methods in all its branches of instruction and demonstration;" (3) a school whose equipment and facilities for medical instruction were modern and kept up to date by the purchase from time to time and use of such equipment as the state board of health prescribed; (4) a school that kept and maintained a library consisting of up-to-date textbooks and periodicals dealing with medical subjects and questions; (5) a school that had access to, owned or controlled, a hospital and conducted a dispensary for poor patients, in both of which the students were required regularly to participate in the treatment of cases; (6) a school having a faculty of at least four who devoted their entire time to the teaching of medicine and its associated branches and "the remainder of the faculty shall be composed of representative members of the medical profession": (7) a school requiring as a requisite for granting the degree of doctor of medicine attendance upon at least four courses of lectures of eight months each, instead of six months each as had theretofore been required, no two of such courses to be held within one year. There was no change in the subjects required to be taught in the school of graduation. The 1911 statutory description of a medical school in good standing is substantially the description contained in the medical practice act at the present time.

The Civil Administrative Code was adopted in 1919, by which a state department of public welfare was created. The functions that had theretofore been exercised by the state board of health in relation to medical licensure were devolved on that department. This new department was authorized to appoint a board of medical examiners, consisting of three graduate physicians, to conduct the examination of all persons desiring to obtain licenses to practice medicine and surgery.

In 1921, the medical practice act was amended to exempt from its requirements the practice of their religious tenets by members of any church. Such religious practitioners, however, were specifically denied the right to prescribe or administer drugs and to perform surgical or physical operations. They were not permitted to assume the title or hold themselves out to be physicians and surgeons and were required to comply with the state quarantine laws.

In 1927 the laws relating to the practice of the healing art were codified. This codification effected numerous changes in the various laws codified, among the more important of which were the imposing of an annual registration requirement on practitioners and an authorization for the use of the injunctive process to restrain violations of the various licensure laws.

In 1933, the Civil Administrative Code was amended and a state department of health was created on which department were devolved all duties pertaining to medical licensure then exercised by the department of public welfare.

To this point, we have seen unfolding a broad, well balanced system of licensure to assure to the people competent medical care, as far as legislation can achieve that end. First, merely a recording in the office of the county clerk of a statement of qualifications, followed shortly by the creation of a central agency charged with the responsibility of issuing certificates to qualified practitioners. Then an examination requirement and a gradual increase in the statutory requirements to be met by all who would treat the sick. This strengthening of the licensure requirements followed advancements in medical training and each step forward was the result of efforts on the part of the medical profession.

Previously I have referred to certain disturbing interludes, or devolutionary episodes, that unfortunately not infrequently inject themselves into the medical licensure picture. In 1901 and again in 1919, Nebraska experienced such episodes when the legislature recognized first the practice of osteopathy as a distinct and independent form of healing and then chiropractic. Lower standards were set up so that adherents of these forms of healing, unfitted professionally to qualify under the then existing law, could obtain licensure. It would unnecessarily prolong our discussion, I think, to trace the development of the two cults in Nebraska. Suffice it to say that requirements were lowered and separate examining boards composed respectively of osteopaths and chiropractors were created to appraise the qualifications of applicants.

The desire of sectarian healers to obtain and retain complete jurisdiction of their kind is understandable, viewing the matter from their own selfish point of view. In support of this statement, I need only refer to statistics that appeared recently in The Journal of the American Osteopathic Association showing that only .6 per cent of the osteopaths who were examined, during a stated period, by boards composed of osteopaths failed to pass, while 44 per cent of osteopathic applicants examined during the same period by composite boards composed of doctors of medicine and osteopaths were found to be unfit. I need only refer to the results of basic science examinations, showing that approximately 75 percent of the chiropractors and 41 per cent of the osteopaths have been found deficient in their knowledge of anatomy, physiology, bacteriology, pathology and chemistry as further reason why osteopaths and chiropractors prefer to keep full control and jurisdiction over their respective practitioners.

Yes, the attitude on the part of sectarian healers on this matter should occasion no surprise to anyone. The willingness with which the legislative branch of the government has collaborated with that attitude, however, cannot so readily be justified. Medical licensure laws, and the word "medical" is used in its broader connotations, are enacted under the police power of the state. The police power is inherent in sovereignty and is exercisable to promote the public welfare, to promote health, morals or safety. It may well be questioned, it seems to me, if the police power of a state can justifiably be invoked to confer special privileges on a few, to break down the barriers that have been established, in the interest of the public good, against poorly qualified practitioners of the healing art, to permit the licensure of persons who have repeatedly demonstrated their lack of proficiency in the basic sciences fundamental to all forms of healing.

In 1927, the legislature had an opportunity to review its previous action in making it possible for substandard practitioners to obtain licenses. That review resulted in favorable action on the basic science law. The legislature in enacting that law exercised the very same police power, incongruous as it may seem, that it exercised in 1901 and 1919 when special favors were meted out to the osteopaths and the chiropractors. While the basic science law does to a certain extent further complicate the licensure system by the creation of an additional examining board, it will and does screen out the most unfit. Its enactment started Nebraska back on the road toward a system of licensure really functioning in the interest of the public welfare.

You are now concerned with a revitalization of your medical licensure system. Weak spots have developed in that system, certain provisions, essential perhaps at one time, are now obsolete and cumbersome. To the task of strengthening the weak spots and of eliminating the nonessential features your officers have given considerable time and effort during many months. The subject of this paper was selected with the knowledge of that activity in mind and in the belief that a clear understanding of what has transpired in the past may perhaps be of some value in planning for the future.

Prophylaxis of Maternal Birth Injury*

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Delivery at term should be conducted with proper regard for the maternal soft tissues, so that these structures receive a minimum of injury.

Pregnancy is accompanied by marked changes in the pelvic tissues in preparation for parturition. The cervix undergoes softening and thinning in the last weeks of pregnancy with the formation of the lower uterine segment. Effacement and dilatation is an active process by which the cervix is drawn up over the presenting part. Time is required for this to occur and any undue hastening of the process will result in varying amounts of injury.

The pelvic fascia with its strong bands extending fanshaped on either side from the cervix to the lateral pelvic wall is the support which retains the uterus at its proper level in the pelvic canal. Other fascial bands intermingle with each other to surround the bladder, the vaginal canal and the musculature of the pelvic floor and perineum. As long as the endopelvic fascia remains intact there can be no descensus uteri, no cystocele or rectocele. This areolar tissue becomes much more elastic during pregnancy thereby allowing, under normal conditions, advance of the presenting part without fascial injury. Rapid or forceful delivery will not permit the caliber of the birth canal to adjust itself quickly enough to avoid trauma. Such may occur in hasty delivery by precipitate birth or operative manipuation.

The vesico-uterine attachment warrants special mention. The bladder normally is supported posteriorly by its attachment to the anterior surface of the cervico-uterine wall. Undue strain exerted at this point by traction, rapid delivery or overdistention of the bladder loosens the vesical attachment. This together with the weakening of the vesico-vaginal septum permits the development of a cystocele.

The perineal body carried forward as it is by the pubo-coccygeus muscle preserves the right angle relationship between the vaginal canal and the normally anteposed uterus. An intact post-partum pelvic floor and perineum, will maintain this support so necessary in preventing rectocele and uterine prolapse. Support of the perineum during delivery or episiotomy, when indicated, will insure the patient against injury to these structures.

Since sedation has come into wide use the incidence of soft tissue injury has been materially reduced. Sedatives not only decrease the patients discomfort but also reduce the violence of a rapidly progressing labor. This allows the birth canal in its entirety to accommodate itself to the descending fetus. Sedation should, therefore, be started sufficiently early to permit its full value to be gained. Many times a rigid cervix will dilate readily after sedatives have been given. Routine post-partum examination reveals only a very occasional cervix that will require suture. Gross lacerations should be treated by primary suture unless the patient's condition or the environment precludes further manipulation.

Minute nicks heal spontaneously or respond readily to cautery at the sixth week.

The patient should be catheterized when prepared for delivery since one cannot, by simple palpation, be positive that the bladder is empty. Inattention to this detail may cause serious injury to the bladder, at times to the extent of fistula formation. Even moderate distention may allow a portion of the bladder to descend with the fetal head and be crushed or separated from its uterine attachment. Marked distention may interfere with fetal descent and most certainly interferes with firm uterine retraction after the third stage. A full bladder may be bruised in expressing the placenta with consequent loss of tone favoring post-partum distention and cystitis.

The lower bowel should be emptied by enema when definite labor begins. Impacted feces may interfere with descent and delivery. If eighteen hours has elapsed before delivery occurs it is well to repeat the enema. Those given when the head is at the outlet cannot be expelled prior to delivery and serve only to increase the contamination of the field and the discomfort of the operator.

The importance of full cervical dilatation cannot be overstressed. The very physiological nature of effacement and dilatation precludes its accomplishment by other than uterine contractions. Manual dilatation of the non-effaced cervix always results in injury. A final ridge of cervix may be gently smoothed out to complete the dilatation but until the cervix is fully open no attempt should be made to deliver the patient.

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*Presented at meeting of Omaha Mid-West Clinical Society, Tuesday, October 28, 1941.

She should not be allowed to strain and forceps prior to this time will cause injury to the cervix and uterine fascial supports. Incomplete dilatation in breech delivery invariably results in difficulty with the arms and after coming head. The unyielding cervix may require incision. This is preferable to forcible dilatation since the extent and direction of an incision can be controlled and healing occurs more readily.

The ideal application of forceps is, of course, in biparietal position. This permits proper rotation and control of the head in its descent. Careful traction is necessary with due regard to the pelvic plane in which the head lies. Full dilatation as noted above is always required for an atraumatic forceps delivery. Misdirected traction when the head is in the plane of the outlet frequently will injure the lateral vaginal wall or extend the mucosal portion of the episiotomy.

Episiotomy when indicated should be performed before marked blanching of the tissue occurs since subcutaneous overstretching of the muscle may occur without external tear. The mediolateral incision gives adequate room without danger of extension into the anal canal. Repair proceeds with closure of the mucus membrane by running suture. The upper angle is securely closed and the final suture is placed just above the hymen and deep enough to include some of the perineal fascia. The hymen offers a good landmark to insure proper approximation of the tissues at the introitus. Traction on the last suture, in line with the long axis of the incision throws the fascial structures into strong relief and easily permits their repair by interrupted suture. The skin is closed by subcutaneous stitch placed at right angles to the skin edge. The final suture is brought out through the skin at some distance from the incision and anchored by perforated shot. Number one chromic is used throughout. This skin closure allows serum to escape from the incision and permits easy cleansing of the perineum. Healing occurs without discomfort. This final step returns to normal the pelvic outlet and, with the others discussed above, leaves the patient free from uncorrected injury to the parturient canal.

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ELECTROENCEPHALOGRAPHY is a comparatively new science, applied to neurology. Dr. A. E. Bennett is one of the pioneers in this field. Read his paper on page 239

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The Value of Electroencephalography in Neurology*

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The development of accurate methods of recording the electro-physiologic activity of the cerebral cortex is the most important diagnostic contribution to clinical neurology in the past decade. In my opinion it will soon become a routine procedure in every complete neuropsychiatric examination.

In our clinic we use a 2 channel amplifying recording system that is entirely adequate for all practical clinical purposes. Three bilateral electrodes are placed upon the patient's skull in line with the pupils of the eyes and in positions overlying the frontal, motor and occipital areas of the cortex.

THE NORMAL RECORD

The predominant rhythm is called alpha or Berger rhythm. This is composed of rhythmic electrical potentials which occur in interrupted series and have a frequency of 8 to 12 cycles per second. Fifty to seventy-five per cent of the alpha activity is obtained from the occipital leads. Less of this activity occurs anteriorly. Very little of it is obtained in the transmotor leads and little or none in the fronto-motor leads.

A second type of normal rhythm, called beta activity, is composed of smaller waves occurring at the rate of 20 to 40 cycles per second. They are of lower voltage, irregular and not in series, like the alpha activity. These waves are predominant over the frontal region. Besides these two types of waves, other types are seen which are called random activity.

The alpha rhythm is not constant in childhood. Children under 10 years of age show only occasional regular sequences of rhythmic activity occurring at the rate of 4 to 5 cycles per second.

THE ABNORMAL RECORD

(1) A disturbance of normal rhythm. (2) Asymmetry between the hemispheres. (3) Slow potentials or delta waves which occur at a frequency below 8 cycles per second.

Deviation from the normal pattern may occur with any type of pathology in the cerebral cortex. The only pathonomonic type of wave pattern is the socalled spike and wave form of petit mal epilepsy. In general, the more severe the cortical pathology, the slower and of greater amplitude are the waves; that is, the delta wave.

NEOPLASMS

Cerebral tumors themselves are inactive but the neighborhood tissue about the tumor gives rise to the abnormal wave. Here we see a local appearance of slow potentials, 5 to 6 cycles per second. Tumors near the surface are readily localized by the EEG record. Deep seated tumors and tumors of the posterior fossa are more difficult to localize. There are reports in the literature of as high as 86 per cent successful localizations by means of the electroencephalogram.

HEAD TRAUMA

In head injuries with resultant cortical pathology such as intracerebral hemorrhages, edema, etc., slow high voltage potentials appear about the damaged region. As recovery from head injury proceeds, the EEG abnormality diminishes. It seems to be a more sensitive index to the extent of damage than are the clinical findings, since electroencephalographic changes often persist for sometime after all clinical signs have disappeared. The findings are especially clearcut when epileptic seizures or personality changes are present. The EEG record is also extremely helpful in determining the post-concussion syndrome and differentiating it from hysteria or malingering. We believe that the diagnosis of hysteria or malingering in head injuries should never be made unless an accompanying normal electroencephalogram is obtained. An abnormal record is strong evidence that an organic syndrome exists but one has to keep in mind the possibility that other types of cerebral pathology may produce the abnormal record; therefore, this evidence should be considered as laboratory evidence, interpreted with the clinical history and findings.

DEGENERATIVE DISEASES

Such organic diseases as presenile dementia, cerebral arteriosclerosis, the encephalitides, acute and chronic chorea, all show a decrease in the alpha rhythm with the appearance of many slow potentials throughout the various leads.

In acute infectious chorea this abnormal rhythm slowly disappears as the patient recovers. In chronic degenerative diseases these changes persist indefinitely. The electroencephalographic record is extremely important in differentiating such cases from suspected functional nervous disorders.

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*Presented before the Omaha Mid-West Clinical Society, October 29th, 1941.

EPILEPSY

In convulsive disorders the electroencephalographic evidence has been of the greatest value. The great majority of epileptic patients either of the grand mal or of the petit mal type show distinctive diagnostic changes. (1) 3-4 cycles per second waves appear at random for 1-2 seconds throughout the various leads, then a regular pattern follows only to be broken up by these slow waves. This is the socalled paroxysmal cerebral dysrhythmia which is considered to be diagnostic of a epileptiform state. (2) The pathonomonic spike and wave pattern of petit mal epilepsy. If this record is not seen in the normal course of events, hyperventilation of the patient for a number of minutes will frequently cause these spike and wave forms to appear. (3) A local focus with the appearance of slow potentials or delta waves often establishes a cortical trigger zone or the site of epilepsy. If this is confirmed clinically and perhaps by pneumoencephalography it may indicate that surgical treatment should be considered. Repeated records of epileptic patients are of extreme value in determining the results of therapy. As the patient improves under treatment with a cessation of the seizures, the EEG record tends to approach normal.

BEHAVIOR PROBLEMS

Electroencephalography is paving the way toward a better understanding of the behavior problem and definitely establishing the fact that a high percentage of these cases have an organic basis. In various clinics, 60 to 80 per cent of behavior disorders have been found to show abnormal records with slow abnormal potentials increased in severity by hyperventilation and often with disorganized irregular patterns similar to those in epilepsy.

PARESIS

In all well advanced cases of paretic dementia there is disturbance in the normal rhythm with an absence of alpha activity and the appearance of abnormal waves especially in the frontal regions. We have found that abnormal records persist in the large majority of cases which show no clinical remission from therapy. In cases that do respond to artificial fever therapy and progress to a good clinical remission, the EEG records return to about normal.

In certain early cases we have reason to believe that the EEG changes may antedate the clinical symptoms of general paresis necessary to a diagnosis. If these observations are confirmed by future studies we may find in the electroencephalographic method the earliest possible way of diagnosing paretic dementia. This would be of extreme value as we might be able to determine from a large group of asymptomatic neurosyphilis cases those patients who are in danger of progressing to paretic dementia and thus be able to establish adequate early therapy to prevent this serious brain disease.

The following are illustrative examples of the value of electroencephalographic observations:

Case 1. Male, age 31, in April, 1940, had suffered a head injury of minor degree which was said to have produced about 30 minutes of unconsciousness. From that time on he complained of various types of head sensations and very questionable diplopia with loss of hearing and was presumably totally disabled for over a year. He had also developed a weakness of the left arm and leg, with numbness and a limp. This patient, after a neurologic consultation, had been declared totally and permanently disabled.

Our findings showed an entirely functional disorder. The asserted loss of hearing was very suggestive of wilful malingering. The patient showed functional loss of sensation and motor weakness over the left side of the body. The problem was one of determining whether an organic brain disease really existed, whether the patient was suffering from an hysterical psychoneurosis or was malingering. The question of a large compensation settlement was involved. The electroencephalographic picture showed no evidence of electrocortical dysfunction. The record was entirely normal throughout.

This evidence was accepted by the court along with strong clinical evidence that this patient was malingering and the case was settled out of court. This case illustrates the extreme value of the EEG record in differentiating organic from functional post-traumatic syndrome.

Case II. Male, age 46, in December, 1940, met with a very severe head injury. He was found in deep shock, totally unconscious alongside the highway by a state patrolman. He remained in deep coma for about three days. Upon regaining consciousness the patient talked jargon in disconnected fashion for a number of weeks. There was gradual improvement but the patient never regained completely his normal speech function. Personality and sensorium changes persisted. A neurologic consultation about two months after his injury revealed no evidence of organic focal disease. Electroencephalogram at that time showed a slight diffuse cortical dysfunction but no focal signs. About four months after his injury the patient showed the clinical symptoms and signs of a right hemiparesis. Electroencephalographic findings also showed distinct evidence of progression with pathologic slow waves throughout the left frontomotor and frontal leads indicating a focal lesion.

The EEG record confirmed the clinical findings of a focal lesion from which probably vascular thrombosis and the right hemiparesis had developed. This patient was declared totally incapacitated from his head trauma.

Case III. Male, age 40, showed no typical clinical or psychiatric signs of general paresis. A strongly positive spinal fluid was discovered during the routine examination.

The electroencephalogram revealed poor alpha activity and frequent slow waves, with greatest involvement through the frontal leads. This record was of extreme value in determining that this patient had passed from the asymptomatic stage of neurosyphilis into early general paresis. It is in this stage that artificial fever therapy is a specific treatment.

Case IV. Male, age 30, had been subject to frequent grand mal seizures not previously controlled by therapy. The electroencephalogram showed disturbance in cortical function particularly in the right frontomotor and transfrontal leads. Poor alpha rhythm and the appearance of slow potentials indicated the epileptic tendency. After combined phenobarbital therapy and dilantin, the checkup electroencephalogram showed a perfectly normal record.

This case illustrates the value of the EEG record in determining the effectiveness of therapy. All epileptic patients under treatment should have records made from time to time similar to EKG checkups in certain heart cases, to determine progress under therapy.

CONCLUSION

Electroencephalography has reached a stage of development of great value in diagnosis, a guide in prognosis and an aid in therapy of many neurologic diseases.

Its practical value is shown especially well in differentiating organic from functional post head trauma states; also in the early diagnosis of general paresis and as an index to the recovery of the patient. Its accuracy in localizing cerebral neoplasms is high. One of the most useful fields is in the management of epilepsy, in the differentiation of organic and idiopathic types and in evaluation of therapy.

* * *

Present Labeling of Catgut Inadequate

On the basis of the data obtained from a study of the absorption qualities of surgical gut (catgut), the Council on Pharmacy and Chemistry of the American Medical Association announces in the May issue of The Journal of the Association that it "believes the present labeling of surgical catgut on the market—particularly with respect to the length of time the catgut can be expected to perform its function in the tissues under conditions of actual use—is inadequate and that better methods of grading the various types of this suture material are necessary as recommended in the present study."

The report on the study, carried out by Dr. H. P. Jenkins and his associates at the University of Chicago under the auspices of the Council, is being published in four consecutive instalments in the Archives of Surgery, starting with the May issue. A synopsis of the report is published in the May 9 issue of The Journal.

An editorial in The Journal discussing the report explains that "the term 'catgut,' as commonly applied to surgical sutures, is essentially a misnomer for the sheep intestine which is used. The name 'surgical gut' adopted for the U. S. Pharmacopeia is a fundamental improvement on terminology."

The report says that the investigators found that the terms "twenty day" or "forty day" which have been used for treated catgut are to a considerable extent unreliable as far as duration of tensile strength in the tissue is concerned and should be discontinued. Within certain limitations the pepsin digestion test described in their paper offers a simple, rapid, indirect method of evaluating the absorption qualities of surgical gut of most manufacturers.

From their study of the duration of surgical gut in the tissues after loss of tensile strength, they conclude that the fallacy of designating the absorption time as a specific number of days, such as ten day, twenty day or forty day, has been clearly demonstrated.

They recommend the designation of four types of surgical gut, A, B, C and D.

The Treatment of Common Foot Disorders*

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To appreciate the importance of foot disorders, one needs only to inquire of the patient with a painful foot. However, in spite of the frequency and severity of such disorders, physicians have not coped with the situation, even though it must be considered a very serious health problem. In attempting to present common foot disorders, the basic fundamental is the anatomy of the foot.

Longitudinally, the foot may be divided into two portions, the outer consisting of os calcis, cuboid, fourth and fifth metatarsals, and the inner consisting of astragalus, scaphoid, cuneiforms, and first, second and third metatarsals. The posterior end of the inner portion is superimposed on the outer portion in such a manner that the astragalus rests almost squarely upon the os calcis. The medial overhang of the astragalus is supported by the sustentaculum tali. Thus, projection of a line simulating the weight-bearing stress of the tibia barely strikes the os calcis weight-bearing stress of the tibia barely strikes the os calcis weight-bearing surface. This results in a tendency of the sub-astragalar joint to shift into valgus. This tendency is aggravated by any shortening of the Achilles tendon. Secondary peroneal spasm with subsequent contracture may occur insidiously. The valgus tendency, however, is prevented by the medial ankle and astragalo-calcaneal ligaments and the tendons on the postero-lateral aspect of the ankle joint. Chief among the latter is the flexor hallucis longus which passes under the sustentaculum tali, acting as a sling. The flexor digitorum longus and tibialis posticus contribute similarly but to a lesser degree. Should this medial protective apparatus weaken, the threatened valgus becomes a reality. Because of the three degrees of motion in the mid-tarsal joint, the astragalus also shifts downward, forward and inward, the head pressing against the calcaneoscaphoid ligament. The inner border of the foot becomes convex, showing the prominence of the astragalar head. In comparison to the posterior part of the foot, the part anterior to the mid-tarsal joint is abducted.

The anterior arch, composed of the five metatarsal heads and their sesamoids, is an arch in the resting phase only. Superimposed weight flattens out this arch with each ray accepting its share of weight. This arch also adapts itself to the underlying surface, regardless of the position of the remainder of the foot. Should the heel be in pronation or valgus, the anterior arch in relation to the heel would assume a supinatory or inverted position.

During the supportive phase of normal gait, the forward swinging foot is placed on the ground, the heel bearing the superimposed weight in slight varus or inversion. As the body center of gravity passes over the supporting foot, the weight stress is transmitted through the outer portion of the foot to the anterior arch. At this point, the propulsive phase manifests itself by weight transmission to the toes which propel the body forward, the final drive being exerted in slight pronation or valgus by the big toe flexor before the foot is lifted and swung forward to repeat its supportive phase.

Examination of a foot evaluates the position of the component portions of the foot, their action during gait, individual muscle assets, strain areas, circulatory status and inflammatory changes. General physical condition must not be overlooked.

In treating any foot disorder, the first step is to obtain a proper shoe. The following points should be observed.

1. The last must be straight—that is, the inner border of heel and sole must be a straight line.

2. The cap and ball must be sufficiently wide and long to allow free action of toes and flattening of anterior arch.

3. The heel counter must fit snugly.

4. The vamp must fit snugly under the first metatarsal shaft.

5. The sole must be flat, heavy and wide enough to prevent the foot from eventually overlapping its edges.

6. The sole should contain a steel shank.

7. The heel should be flat, have straight sides, and fall in the axis of the leg.

Since the stock shoe is made to conform to the contours of the average foot for a given size, it is apparent that the extremes of a foot size will not have proper distribution of weight over the entire weight-bearing surface available. Hence, additions in the form of insoles or arch supports are necessary to improve the "fit" between foot and shoe.

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*Read before the Omaha Mid-West Clinical Society, October 30, 1941.

Insoles or arch supports are available in various materials and in various sizes, adjustable and easily removable. However, the ideal support is resilient and springy, fills in the hollow between shoe and foot, and is permanently fasted in the shoe to prevent minor changes in position. Using the foot print as a basis, a satisfactory insole may be fashioned of felt or sponge rubber as an office procedure. If several layers are necessary to raise the insole to the desired height, they may be fastened together with rubber cement. Beveling to the proper angle is done with a sharp knife. The insole is fastened within the shoe by means of a tack until the position has undergone a therapeutic test, and then it is anchored permanently with rubber cement.

Pes planus and valgus, commonly known as flat foot, is treated by considering each deformity as a mechanical problem. Thus the straight last shoe is fitted with an appropriate insole controlling two of the flat foot deformities, namely the abduction of the forefoot and the lowering of the long arch. Any equinus present is accommodated by raising the heel. The heel pronation is wedged to the vertical position by placing a ⅛-inch wedge under the medial half of the heel. The relative forefoot supination is wedged into pronation by a similar wedge placed on the outer half of the sole. These corrections may be uncomfortable for a few days and the patient should be forewarned. Lastly, foot exercises should be performed every day to re-educate and strengthen medial muscles and ligaments. These consist of toe flexion over the edge of a book or board, grasping small objects with the toes, and walking on the outside of the feet with toes flexed.

The cavus of high arched feet is supported in a like manner. This insole, however, is higher medially and laterally and is always thicker than the ¼-inch thickness of the conventional rubber or felt sheet. In this type of foot, a rigid or hard support is tried if the elastic support fails, not because this rigidity is necessary but because of the greater pressure required in a rather restricted area. Failure to improve with supportive means indicates more radical treatment such as stripping of plantar fascia off the os calcis and wrenching, or tarsal wedge resection.

Pain in the anterior arch may be generalized in the entire arch as a single pressure reaction, or may be localized in one of the middle toes, radiating into the tip of that toe. The latter type is known as metatarsalgia and is due to impingement of a plantar nerve between a metatarsal head and the base of support. The pain is brought on by walking and relieved by rest and shoe removal, the patient frequently manipulating his toes to obtain relief from the sharp, lancinating character of the pain. In children, epiphysitis of the metatarsal head is associated with local pain. Treatment of any pain in this area must relieve the metatarsal head or heads of weight-bearing. This is accomplished by fitting a beveled pad of felt or sponge rubber just behind the head or heads concerned and anchoring it inside the shoe at its predetermined place. A curved bar of leather, 3/16-inch high, nailed to the sole of the shoe just behind the segment of sole used by the metatarsal heads "floats" the anterior arch during the majority of the weight-bearing phase of the gait. Conservative measures failing, more radical treatment is instituted. This varies from manipulation under anesthesia followed by a month's fixation in a short leg cast with toes flexed in the metatarsophalangeal joints, to transplant of toe extensors to the metatarsal shafts, or to resection of the metatarsal head or heads.

Claw toes, with the typical deformities of hyperextension of the metatarsophalengeal joints and hyperflexion of the enterphalangeal joints is severely disabling for two reasons. The deformity makes a much thicker anterior portion of the foot which is difficult to fit properly with a shoe and which causes pressure reactions on the prominences of the toes known as "corns." Secondarily, the weight-bearing area of the foot necessary for the final drive is markedly decreased from one consisting of the entire arch plus the entire plantar surfaces of all toes to one consisting of the anterior arch plus the ends of the flexed toes. The chief cause is probably the use of too short shoes at some time during the growing period. Muscular imbalance or arthritic activity also account for many of these deformities. If only one toe is involved, it is usually the second because it is frequently longer than the first toe. When only one of the toes is deformed, the chief symptom is pain which is localized to the "corn" on the dorsal prominence of the toe. When all of the toes are deformed, there is usually the added pressure reaction, callus and anterior arch pain. Treatment is directed at straightening the toe or toes in question. If only one is involved, a small appliance to maintain pressure on the dorsum of the proximal interphalangeal joint is of value in milder cases. The ordinary 3/16-inch anterior heel has a flexion action besides relieving pressure areas under the anterior arch. These methods failing, wedge resection of the proximal interphalangeal joint with removal of the "corn" may be sufficient for the deformity of one toe alone. Claw deformities of all toes necessitate open dorsal capsulotomies of all metatarsophalangeal joints, transplant of all long extensor tendons to the metatarsal shafts, lengthening of the short extensor tendons to which are anchored the distal remnants of the long extensors, and wedge resection of the proximal interphalangeal joints. Following this procedure, immobilization in right angle position with toes in 180 degree extension is necessary for six weeks.

Corns are produced by pressure and friction on the skin of a toe at a point where a bony prominence is located. This prominence may be on the neighboring toe. These toes show some deformity either the typical claw, varus or valgus. The hard corn is usually located on the dorsum of the proximal interphalangeal joint and is characterized by horny induration and thickening. The soft corn appears between the toes and exhibits maceration due to moisture. It appears usually at the phalangeal joints where a prominence is always present and which becomes more marked on small deviations. The phalangeal base corn is located deep in the web between two toes, usually between the fourth and fifth, and is caused by the lateral prominence of the base of the basal phalanx which exerts pressure with the resulant corn on the medial aspect of the fifth toe. Differentiation from a fungus infection is made by a study of a flake of corn scraping macerated with a 10% potassium hydroxide solution, after which the fungus is visible microscopically. Conservative treatment of the pressure corn consists of properly fitted stockings and shoes, using moleskin adhesive to relieve friction and felt pads to reduce pressure, and paring and skiving of the corn to reduce the size of the corn. A wedge to the outer half of the sole may throw the foot medially and relieve the fifth toe corn markedly. Operative treatment consists primarily of removing the bony prominence and only secondarily of removal of the corn. In other words, removal of the causal factor, the bony prominence, is sufficient, as the corn, the pressure result, disappears in three or four weeks when the casual factor is absent. The removal is performed through a longitudinal incision to facilitate healing. If the deformity of the interphalangeal joint is marked, joint resection is performed rather than simply removing the prominence. This, however, is not applicable in the treatment of the phalangeal base prominence because of the decrease in smooth motion which follows in the metatarsophalangeal joint. Radical removal of the basal lateral prominence may be followed by dislocation of the basal phalanx if the removal has been too generous. Following these procedures, walking is allowed on the third day. It should be mentioned that amputation of the toe for an uncomplicated corn is unnecessary; further, this frequently disrupts the mechanism of the foot and proper shoe fitting; in severe deformities, partial toe removal may be necessary but every effort should be made to conserve all normal soft tissues to maintain the general foot contours.

The painful heel disables by virtue of the heel's function in normal gait. At the point of impact and beginning of the supportive phase, all weight is borne on the under surface of the os calcis. In growing children, heel tenderness suggests an apophysitis of the os calcis, easily recognized on the roentgeneogram by the fragmentation and increased density of the apophysis. This tenderness is found to be posterior, primarily. In contrast, the adult shows tenderness inferiorly. Roentgenograms may show nothing, a small area of periosteal proliferation at the points of attachment of the plantar fascia, or a well developed spur. The proliferation is usually on an infectious basis. The spur in itself causes no pain as a general rule. However, the presence of the spur is conducive to formation of a bursa at its tip. This bursa or bursae, when inflamed, are the chief factors in production of heel pain. Conservative treatment consists of high insole support, cupped under the tender area, bearing majority of weight on the longitudinal arch. Local diathermy gives symptomatic relief. Conservative measures failing, surgical exploration may reveal the pathology, whether a periostitis, a bursa, or a spur. If periosteal proliferation is noted, the prognosis is fair only. Removal of the bursa or spur or both is sound and usually successful therapy. This failing, resort is made to a rotation osteotomy of the os calcis to push the tender inferior area high into the longitudinal arch and place the posterior painless portion in an inferior position.

Stress is again placed on general systemic examination and treatment. The latter should occupy the clinical picture as a major feature in any foot disorder that cannot be explained on mechanical grounds. These problems are therefore of importance to the orthopedist, the internist, the general practitioner, and the chiropodist. The latter specialty is coming into its own because of the usual medical reluctance to treat these disorders. As a general health problem, foot disorders should be considered a medical responsibility.

* * *

Ill Effects from Sulfonamides

Four reports of ill effects following administration of some of the drugs in the sulfanilamide group are contained in The Journal of the American Medical Association for June 13.

Leo M. Meyer, M. D., and Martin Perlmutter, M. D., Brooklyn, N. Y., present what they believe to be the first case reported in medical literature of aplastic anemia following the administration of sulfathiazole.

A case of intestinal obstruction, apparently caused by the excessive production of fibrous tissue due to an unusual response to sulfathiazole used in an operation is reported by Henry B. Sutton, M. D., Ithaca, N. Y.

Jack Nelson, M. D., New York, reports a case of acquired sensitivity to at least three sulfonamide drugs.

The death of a man due to failure of the kidneys following sulfadiazine treatment is reported by C. Alexander Hellwig, M. D., and H. Lester Reed, M. D., Wichita, Kan.

In the case of aplastic anemia, Drs. Meyer and Perlmutter say the woman was given 1 gram of sulfathiazole every four hours for two days for treatment of pneumonia. When she came to their attention two days later, examination revealed the aplastic anemia condition in the bone marrow. However, they say that "The immediate improvement on cessation of the drug with the return of the bone marrow picture to normal indicates that the process is not an irreversible one if discovered early."

Dr. Sutton's report involves a boy who was operated on for acute appendicitis. After the appendix had been removed sulfathiazole crystals were sprinkled on the area involved in the operation and on the incision, followed by administration of the drug by mouth after the operation. A month after the boy was dismissed from the hospital he began to have attacks of severe abdominal cramps. These became progressively worse and a second operation revealed an obstructed intestine, due to an adhesion to the wall of the abdominal cavity. Abnormal tissue also was found on the membrane lining the abdominal cavity over an area corresponding exactly to that with which the sulfathiazole had been placed in contact at the first operation.

"It seems reasonable to suppose," Dr. Sutton says, "that the excessive production of fibrous tissue both in the wound and on the peritoneum with its attendant complication was caused by an unusual tissue response to sulfathiazole . . ."

The acquired sensitivity reported by Dr. Nelson was to sulfathiazole seven months after its use, and also included sulfadiazine and sulfanilamide. He points out that "since many patients have been treated with sulfonamide drugs (often for minor ailments) it is likely that the reaction of acquired sensitivity will be seen with increased frequency. This is a matter of some importance and deserves investigation."

Drs. Hellwig and Reed say their case of damage to the kidneys resulting in death after sulfadiazine treatment "is reported to emphasize the fact that sulfadiazine is not as harmless as the preliminary claims made for this new compound would suggest."

They say their findings in the case reported are not in accord with the belief of most physicians that kidney failure after sulfadiazine treatment is caused by mechanical blocking of the urinary tract and not by actual tissue damage due to poisonous actions of the drug. They say that it is not their intent in reporting the case to discourage the use of sulfadiazine but to call attention to a possible toxicity of the drug to the tissues of the kidneys.

"Careful attention to the daily urinary output of patients receiving sulfadiazine appears to be a simple and efficient method to prevent renal failure," they advise.

The "Vegetable" Appendix

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Acute appendicitis is still one of the most treacherous diseases that ravage in our midst. In spite of the vast general progress in diagnosis and surgery, this condition is responsible each year for an appalling number of deaths. The probable reason that so many patients are whisked out of existence, leaving relatives and doctors alike dumbfounded, is the difficulty in making an accurate and specific diagnosis of acute appendicitis before fatal complications set in. It is too frequently impossible to distinguish between harmless spasm and necrotic inflammation, until destructive inflammation has penetrated through to the peritoneum. There is no pathognomonic sign or syndrome. Temperature, leucocytosis, pain, tachycardia may be absent in a necrotic case.

For this reason, surgeons have learned from necessity to lean over backwards in removing suspicious appendices. Our surgical brethren deserve only compliments for this attitude. It is far safer to human life to do a perfectly harmless and quite comfortable unnecessary appendectomy, than to take chances delaying with a possible obscure necrotic infection. In fact, the prophylactic removal of normal appendices is a sound and sensible idea. Modern explorers, who expect to be away for prolonged periods from the advantages of surgery and hospitalization, are in the habit of doing that very thing.

I have taken pains with the above introductory remarks in order that the following pathological discussion may not be construed as a criticism of the present-day surgical attitude toward suspicious appendices. In the present imperfect state of medical knowledge, it is no surprise that theoretical pathology and practical surgery may sometimes disagree. This disagreement must no more be interpreted as a criticism against the surgeons' procedure in appendicitis, than the fact that some individuals are naturally immune to smallpox can be taken as a reason against universal vaccination.

During the past fifteen years, I have carried on routine observation of surgical pathology in a number of modern hospitals. During that period I have examined grossly and microscopically, and signed reports on approximately 10,000 appendices removed at operation or found at necropsy. During the course of years, there has gradually dawned on me one of the possible causes of chronic, low-grade, right-lower-quadrant pain, or recurrent attacks of this pain, or attacks of pain of moderate severity. I am especially impressed with the increase of this condition in recent years.

I am offering no figures or statistics to present a false appearance of accuracy. The conception and nomenclature of appendiceal pathology has changed during this period of observation; and my own conceptions have required time to evolve. For approximately the first half of this period my records must be of slight, if any, value; and in the latter half, the accuracy approached completion only gradually with the years. Nor does it seem, in this hectic age, in order to make this point, essential to go over ten thousand slides and gross descriptions.

More important than figures, are several fundamental facts in anatomy and physiology. When the contents of the ileum find their way through the ileo-cecal "valve," they have before them, in the ascending colon, a vertical climb of 20 to 30 cm. Alas, however, they have before them, into the cecum, a vertical drop of 5 to 10 cm., into a blind, dependent sac. This vertical push of the colon contents upwards to the hepatic flexure, is quite an elevator job, a real freight-elevator job. It is an imperfection in the human mechanism that is one of the many penalties that we pay for the change from the horizontal to the erect posture. Gravity, the inertia of inanimate matter, and the increasing lack of intestinal tone among our population, are added factors. There can be no surprise then, over the fact that a considerable fraction of the ileal contents drop into the cecum, and are frequently found so, at operation and necropsy. Because the tone of the cecal muscles is the lowest of all in the colon, there can be no surprise that this material tends to delay in the trap into which it has fallen.

The entire appendiceal-cecal region is not an efficiently functioning apparatus. It is an evolutionary residuum, still trying to make the change that was necessary when cellulose-eating primates changed into animal-hunting humans.

Another fundamental fact is, that the function of the large bowel is the absorption of fluid, not its secretion. Its contents become more and more dry as they progress in a caudad direction, or as they remain static in any one spot. They are fluid in the jejunum and solid in the lower sigmoid. They are hard and packed after a period of constipation.

Finally, there is the historical phenomenon of the sudden and widespread fad of cellulose eating. "Vegetables" are popularly (and not a little in medical minds) supposed to be a prime necessity of health and life; they make you thin, they make you fat; they give you pep, they decrease drive; they give you strength, they prevent disease. The public is hypnotized with vegetables, and most individuals eat some tons of cellulose per year. This is an overswing of the pendulum from the pre-vitamin days when there was an insouciant neglect of the use of fresh foods of any kind. After a winter on salt-pork, radishes and lettuce out of a spring garden tasted so delicious that the psychological lag causes the consideration of an infinitesimal proportion of vitamins and minerals in vegetables, to produce a popular and semi-popular neglect of more efficient and nutritious dietary sources of these two essential food elements; and as a result, to pack the gastrointestinal tract with cellulose.

The human intestinal tract is not designed for the handling of large consignments of cellulose. It lacks cellulose-splitting enzymes. It has no way of keeping the mass sufficiently moist to be readily transportable. The old idea of "bulk" "sweeping out the poisons" is a delusion on the face of it. Dried cellulose does not sweep. It packs, solid and hard, and its elimination puts a still heavier burden on the muscular gradient of the bowel-tract.

Especially, it packs in the indolent cecum. Still more, does it pack in the feebly-muscled appendix. I have seen countless appendices of cellulose eaters, distended to a relatively huge lumen, with a thin wall, atrophic mucous membrane, and almost no muscle. I have learned to recognize histologically in the packed contents, the common dietary vegetables. It is very simple to tease out crushed fragments of spinach, carrots, lettuce, etc., and to learn to identify them in pathological slides of surgically removed appendices.

My reader ought to be ahead of me by this time. Ineffectual spasm of smooth muscle is always associated with pain. The appendix, with its undeveloped muscle, dilated with a wad of dried cellulose, makes supreme efforts to expel this foreign body, efforts which in results are feeble and devoid of effective action, totally unsuccessful—but extremely painful. The pain has a double intermittence: That characteristic of the rhythm of bowel peristalsis, and that characteristic of the rhythm of eating; but the patient's awareness of it is extremely chronic.

It would be desirable at this point to report a correlation at repetition of the diet of the patients from whom these appendices were removed, with their clinical course and their cellulose content, as well as with the pathological evidence of atrophy due to chronic obstruction by stasis. This would be possible with any degree of accuracy, only by a hospitalization for many weeks or months of the patient, previous to their operative work; because the layman's own report of his dietary is notoriously inadequate. Attempts to accumulate such statistics by personal conference are not accurate; but give an impression in the above direction so strong, that it was really this impression that stimulated the writing of this paper. The impression is so strong that it leads to the conclusion that the painfully spasmodic appendix, packed with inspissated cellulose from a dietary content in excess of what the human body can handle, and yet totally harmless to the patient as far as life is concerned, except for an occasional accidental strangulation—is a definite and common clinical picture.

It would be only laudable to remove all of these vegetable appendices, if this were done with a full consciousness of the pathology and of the therapeutic, or rather the prophylactic theory. The individual is always better off without his appendix. But it seems that it is better practice to call the procedure prophylaxis, to avoid raising the patient's fears, and to keep him on a more constructive diet.

Chronic Prostatitis As a Focus of Infection*

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The problem of the chronically infected prostate and associated seminal vesicles seems of major importance among genito-urinary diseases in discussions pertaining to foci of infection. Some of the questions which must be answered are as follows. Is the infected prostate a focus? Do distant foci of infection cause prostatitis or make an already existing prostatitis more persistant and refractory to treatment? Should it carry with it the stigma of venereal disease? How does a prostatitis make itself known to the patient and how may we suspect or prove its presence? It is curable and if so, what treatment is most effective?

Chronic infections of one part or another of the genital tract—urethra, trigone, Cowper's gland, vas deferens, epididymus, testis, but in particular the prostate and seminal vesicles—occupy a place in clinical medicine next to chronic infections of tonsils, nasal sinuses and teeth as a bacterial breeding place for blood contamination—foci of infection. An isolated infection of any one part of the genital tract is the exception, although in most cases the prostate and seminal vesicles predominate in the pathologic process. Prostatitis may be isolated but seminal vesiculitis without prostatitis is unusual.

Chronic prostatitis occurs in 25 to 50 per cent of adult males according to various estimates. Often following cure of gonorrhea, the patient is left with a persistent chronic nonspecific prostatitis and vesiculitis. This infection may lie dormant for many years, only to flare up at a later time. A surprising number of patients with chronic prostatitis, however, have never had gonorrhea, so some other explanation must be given for the high incidence of prostatitis in adults. An important accessory factor is the change in sexual life in widowers over 50, for disuse and stasis predispose to infection. Another notable explanation is the more or less generally accepted belief among urologists that a distant focus of infection in teeth, tonsils or sinuses is frequently either the primary cause of prostatitis or causes prostatitis to be persistent and refractory to treatment until the distant focus is eliminated. Thus Oviedo(1) in examining a large number of convicts having chronic prostatitis accompanied by definite paridental infection, found that in 50 per cent of these individuals the prostatic infection was greatly improved when the paradental infection was eradicated, although no specific treatment was directed to the prostate. Pelouze(2), too, emphasizes the frequent association of other foci of infection which he regards as a common primary cause of prostatitis.

That acute prostatitis results from distant focal infection was rather dramatically emphasized to me recently. During a period of several weeks, I had occasion to see two patients with acute nonspecific pyogenic prostatitis, one of whom had had an acute pharyngitis and tonsillitis one week before, and the other "grippe" ten days prior to the onset of acute prostatitis. There was no other explanation of the cause of their prostatitis. In another instance, a man suffering from furuncle on the leg developed acute prostatitis two weeks later. In this latter instance, a prostatic abcess developed which was drained by transurethral prostatic incision.

That chronic prostatic and seminal vesicular infections act as foci of infection second only to the sinuses, teeth and tonsils cannot be doubted when one considers the rare exacerbation of a subacute or chronic arthritis or an iritis by even the most careful and gentle prostatic message. We know, too, in no uncertain way, the dramatic response of the patient suffering from lumbago, neuritis, myositis, and arthritis, due to a genital infection, when effective therapy is instituted.

Wallace S. Duncan(3) studied a group of 1,252 men with joint symptoms seen during a five year period at the Cleveland Clinic, all of whom had symptoms sufficiently severe to cause them to seek advice. Sixty per cent of these patients were examined in the genito-urinary department. Of these 752 patients, 312 had definite prostatitis, and only 40 per cent of this number gave a history of gonorrhea. Going further with his study, Duncan found that of the 312 patients with prostatitis, 49 also had dental infections, 66 infected tonsils and 52 both dental and tonsillar infections. These findings, he says, are not necessarily an indication that the prostate is a more frequent focus than the tonsils or teeth, since many of the patients had been examined previously for the most obvious source of infection, but it does emphasize that the prostate is as important as any other possible source and is often a more dangerous factor in disability because less thought and consideration are given to it. Investigation of teeth, tonsils and sinuses without including an examination of the prostate and vesicles as a possible site of the offending foci of metastatic infection, still leads to the removal of teeth and tonsils and other operative procedures without benefit in many instances, the focus later being found in the prostate or seminal vesicles.

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*Read as part of a symposium on "Focal of Infection" at the University of Nebraska Hospital, January 15, 1941.

It would seem of value when considering the prostate and vesicles as a possible focus, to keep in mind some of the most usual symptoms of such infections, bearing in mind. however, that frequently prostatitis and vesiculitis run a silent course during which time the patient is asymptomatic.

The symptoms of chronic prostatovesiculitis are irregular, varied and complex. The patient may complain of some disturbance of urination such as frequency and urgency, burning and pain on urination, difficulty on urination, dribbling, etc., symptoms resulting largely from participation of the urethra and bladder neck in the process. The patient may complain of a morning urethral discharge or recurrent urethritis, and have persistent cloudiness or shreds in the urine. Or he may complain of some sexual disturbance, as loss of desire and erection, painful erection, premature ejaculations, painful or bloody ejaculation, impotency, sterility, or sexual neurasthenia. Again, pain may be the only symptom. The variety and location of manifestations of pain in the prostate are limited only by the possibilities of the sympathetic and spinal nerve connections of the nerves of the gland. "Millionaire's lumbago," sciatica, or workman's "sacroiliac slip" are frequently merely prostatic backaches. The pain may be lumbar, perineal, rectal, suprapubic, inguinal or scrotal. These pains may be aching in character, the sufferer may complain of "drawing" and "burning" which are often worse at night, or he may have attacks of "shooting pains," neuralgic in character. These pains may radiate into the groin and scrotum, suggesting epididymitis or renal colic. If the pain radiates upward, it may simulate appendicitis. When one considers the intimate anatomic relation of the seminal vesicle and the vas deferens with the lower ureter and the appendix, it is obvious why many appendices are removed in the course of a genital infection.

The diagnosis of prostatitis or seminal vesiculitis in this discussion is limited to the suggestion that the patient be asked leading questions to bring out symptoms already described but often the diagnosis must rest purely on the microscopic evidence of pus in the secretion expressed by prostatic massage and stripping of the vesicles. Digital examination alone is not sufficient, because one often finds a normal-feeling prostate when the expressed secretion is loaded with pus. However, if by digital examination the prostate seems unduly tender, is boggy or leathery in consistency, or is enlarged, one is more often rewarded by finding pus in the prostatic fluid. The absence of pus on one or two successive examinations is insufficient proof that infection is not present. The focal areas may be closed off in the prostate or vesicles and the first few manipulations fail to open a pathway into the urethra. As a rule, pus appears in the secretion on the third or fourth manipulation, if not present before, and no prostate should be pronounced free of infection until after three normal secretions are obtained on three successive examinations at least three days apart.

Contrary to the opinion of some patients and not a few physicians, chronic prostatitis with associated seminalvesiculitis is not an incurable disease. Prostatic massage and stripping of the seminal vesicles are universal therapeutic measure and while their scientific nature may be questioned, their effectiveness cannot. This is done, as Pelouze has put it, "to encourage drainage digitally," but massage also squeezes into the patients lymphatics and circulation some of its own bacteria. This is autovaccination and "is the reason why prostatic massage should not be repeated more than twice weekly and should be carried out with gentleness and without force; prostatic massage is true vaccine treatment."

Prostatic massage and stripping of the vesicles are such simple maneuvers that a description of the technique might seem superfluous. Among patients suffering from chronic prostatitis there is a large group of traveling salesmen, traveling orchestral personnel, and transients of all types. In treating and talking with such patients, I find there is a large variety of techniques for prostatic message and much voluntary condemnation of the profession relative to ineffectiveness of massage administered to these individuals as they consult on their travels.

Prostatic massage and stripping of the seminal vesicles should be carried out with a definite purpose in mind, remembering that injudicious application may do harm. The vesicles should be stripped three or four times on each side with a downward and inward sweep of the slightly bent index finger, using the tip rather than the flat part of the digit. The gland is stroked only in the direction of the emptying ducts—from above and laterally, down and medially, using no more than 12 to 15 strokings during a treatment. The midline should not be crossed as this is the tender area. The pressure must be firm but gentle. The massage should not cause pain or faintness, and should almost always yield secretion at the urethral meatus for microscopic examination.

In patients with symptoms confined to the seminal vesicles and prostate, 4 cc. of 2 per cent aqueous mercurochrome, or 1-1000 solution of neutral acriflavine may be instilled into the deep prostatic urethra with a Bang's instillator, either before or after massage. Later in the course of treatment, silver nitrate 0.5 per cent to 2 per cent may be used, particularly if symptoms of verumontanitis (sexual symptoms) are present. In patients who complain of frequency and urgency, or other symptoms arising from participation of the vesicle neck and bladder in the infection, gravity irrigations of the posterior urethra and bladder, using the Valentine irrigator, are more effective. Potassium permanganate 1-5000, acriflavine 1-8000, or silver nitrate 1-5000 or 1-10000 are satisfactory for such irrigations. At times it is better to fill the bladder with irrigating fluid before massage. Warm or hot irrigations are usually more effective and give greater relief.

Because the circulation of the prostate is normally poor, there appears to be practically unanimous concurrence that direct heat is the best method of improving it in both acute and chronic cases. If there is any disagreement about its effectiveness, it is concerning the best method of employing it. Application of heat by diathermy is of questionable value because when one considers the variety of shapes and sizes of prostates, the difficulty of constructing electrodes to meet all needs is apparent. This objection applies to all types of electrically heated metal electrodes. Use of a rectal or prostatic bag with the Elliot apparatus is feasible but it is difficult to insert and the machine is expensive. Rectal irrigation with hot water is a convenient method of applying prostatic heat and one which is inexpensive and which the patient can give himself at bedtime using two catheters, one for inflow and the other for outflow. Heat is particularly helpful in relieving severe pain and irritation from acute or subacute prostatitis. While not as effective, sitz baths are more convenient for the patient and should be taken twice daily for 15 minutes as hot as the patient can stand in not over three inches of water.

Sulfanilamide and sulfathiazole are eliminated by the prostate as well as the kidneys and both drugs are of immense help in treatment of prostatic infections. The latter is of particular value in staphylococcic infections. After drainage is established by a number of prostatic massages, either drug in doses of 45 to 60 grains a day for 4 days, reducing the dose for an additional 4 day period, is most effective. The usual precautions must be taken to prevent complications.

It is quite apparent that the control of intimate and fixed habits of patients with chronic prostatitis offers the most baffling problem. Alcohol is excreted by the prostate and testis in about the same concentration as by the kidney. Patients must not drink alcoholic beverages and aberrant sexual practices must be stopped. Many failures in cure are due to persistency of these habits and practices.

Other general measures such as avoidance of automobile riding, keeping regular hours with at least eight hours' sleep at night, should be stressed. Intercourse should be limited but need not be restricted in the chronic stage since ejaculation is an effective method of emptying the prostate and vesicles.

Such strictly urological measures as ligation of the vas to prevent epididymitis, vasotomy and injection of the vas with antiseptics, endoscopic injection of the ejaculatory duct or the prostate with antiseptics, injection of the prostate by needle through the perineum as recently described, and seminal vesiculotomy or seminalvesiculectomy are mentioned only to indicate the multiplicity of proposed treatments in protracted cases.

The infected tonsil is a condition somewhat analogous to the infected prostate, and the prostate is far less accessible to local treatment than the tonsil, for which local treatment has been discarded. Prostatectomy is the only really sure and rapid cure for chronic prostatitis, although frequently transurethral prostatic resection accomplishes a similar result. This is far too radical except as a last resort in such isolated instances as when chronic prostatitis accompanies hypertrophy of the prostate. By judicious management and proper use of the conservative means available, as already outlined, many cases can be cured or the amount of pus in the expressed secretion rendered negligible.

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* * *

The Present Role of Sulfaguanidine in Medicine and Surgery

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From the Department on Surgery of the University of Nebraska
Omaha, Nebraska

In September, 1940, Marshall and his coworkers(1) described the unusual properties of sulfanilylguanidine, one of the sulfonamide derivatives, now generally referred to as sulfaguanidine. The substance is fairly soluble in water but is poorly absorbed from the intestine; a condition which makes possible a high concentration in the intestine and a low concentration in the blood and tissues. It is conjugated in man and penetrates the tissues with the exception of the brain and spinal fluid. It is rapidly excreted. It is a white, tasteless powder, administered by mouth but not at present by any parenteral route.

TOXICITY

Although less toxic than the related compounds of sulfanilamide, sulfapyridine and sulfathiazole, there are definite toxic manifestations, and of these the practitioner should be aware. As with any other drug "the dose determines the poison" and when excessive doses of sulfaguanidine are given to dogs, photophobia followed by keratitis, corneal ulceration and perforation do occur. Autopsy on such animals shows crystals of the drug in the bladder and kidney calyces.

In man, with the doses in common usage, one or more of the following manifestations occur in about 10% of the cases: Diffuse erythema or indurated subcutaneous nodules without itching or subjective discomfort, conjunctivitis, anorexia, nausea, vomiting, fever ranging from 101° to 103° with little remission, and joint pains. In over 300 cases there have been no evidences of hemolytic anemia, leucopenia, or of blood dyscrasias. The crystals occasionally occur in the urine. Because of the possibility of renal shutdown, the drug should not be given in instances of poor kidney function. There is no correlation between toxic reactions and the blood level of the drug. Following withdrawal of the drug, toxic reactions rapidly clear by virtue of rapid kidney elimination. So far as I am aware, no fatalities have been attributed to the drug.

EFFECT UPON BACTERIOLOGY OF THE STOOLS

Corwin(2) has shown that in the dog and monkey the drug causes a reversal of the ratio between gram-positive organisms, particularly the cocci, and the gram-negative bacilli. Bornstein and Strauss(3) found from in vitro and in vivo experiments that it is effective against cholerae suis B and also in some degree against Salmonella paratyphia A but ineffective against the other organisms of the Salmonella group. In man the usual effect is a uniform diminution of all the intestinal flora. This is not constant nor to be expected in all cases. Patients having an intact intestinal mucosa show marked reduction whereas those having an ulcerative lesion, such as a carcinoma, show less change. The explanation of this discrepancy is not clear; the split products of necrotic tissue and blood may inhibit the bacteriostatic and bacteriocidal action of sulfaguanidine, just as para-amino benzoic acid is known to counteract the effect of other sulfonamides. The stool of a normal man usually shows 3-10 billion coliform organisms per solid cubic centimeter. In patients responding to the drug the coliform count falls to 100 to 5,000 per cubic centimeter of solid stool, after a treatment period of 7-10 days, and in some instances, the stools become practically sterile in this respect. Accurate studies concerning the fate of the spore-formers are not yet available.

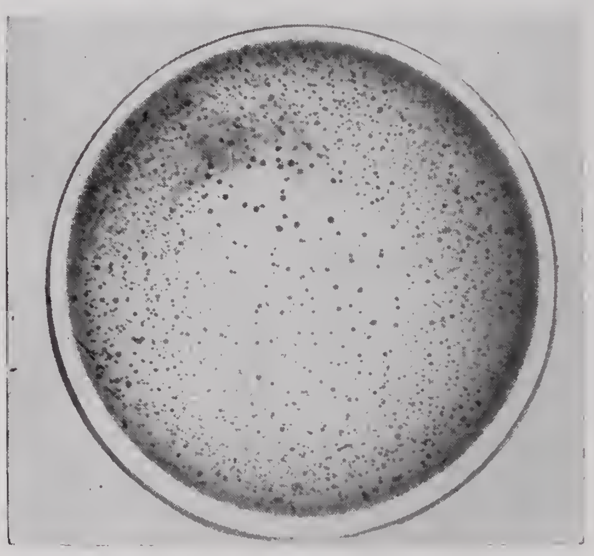

Figure 1. 24 hour plate of desoxycholate agar showing growth of coliform organisms in 0.001 gm. of human stool: Innumerable colonies.

USE IN SURGERY

Although the virulent flora of the colon renders peritonitis an ever-present hazard, the key to successful colon surgery is preservation of blood supply and lack of tension; not absolute bacteriological sterility. There is probably some contamination during every colon anastemosis, no matter how careful the technique, however the peritoneum is able to take care of this. Only massive or continuous leaks cause serious infection. The engaging possibility of rendering the intestinal tract relatively sterile and of diminishing the risk of peritonitis, has led to the administration of the drug pre-operatively. For such purposes, small, relatively non-toxic doses have been given up to the present time: for an adult 2 grams every 4 hours. This amounts to approximately 0.05 grams per kilogram of body weight and usually produces a blood level of about 4 mg%. While under treatment the gross character of the stools changes: They become grayer, homogeneous, and less odorous.

By the use of this drug the closure of a number of complicated intestinal fistulae as well as open recto-sigmoid anastamoses has been considerably facilitated.(4) Patients subjected to such obvious contaminating procedures have had remarkably smooth afebrile courses and in most instances their wounds have healed without the slightest infection. It should also be mentioned that such patients have usually received sulfathiazole following operation. Although the drug would probably be more effective, could it remain in the colon for a longer period, the accepted pre-operative regimen for colon resections is designed to promote complete elimination and vigorous peristalsis, hence the drug as well as the fecal stream, is carried through at a rapid pace.

USE IN DYSENTERY

In acute bacillary dysentery, whether in children or in adults, the drug appears to be of decided value. Marshall and his co-workers(5) treated 17 cases of acute dysentery in children due to the Flexner or Sonne bacillus and observed complete cure or rapid improvement in all but one case. Lyon(6) observed 46 patients with acute bacillary dysentery, treating alternate cases with sulfaguanidine. In the untreated group temperatures ranged from 102° to 105° F. with severe bloody diarrhea, nausea, vomiting, abdominal cramps and tenesmus. There was marked loss of strength and weight, and gradual recovery in about 3 weeks in the control group. In the

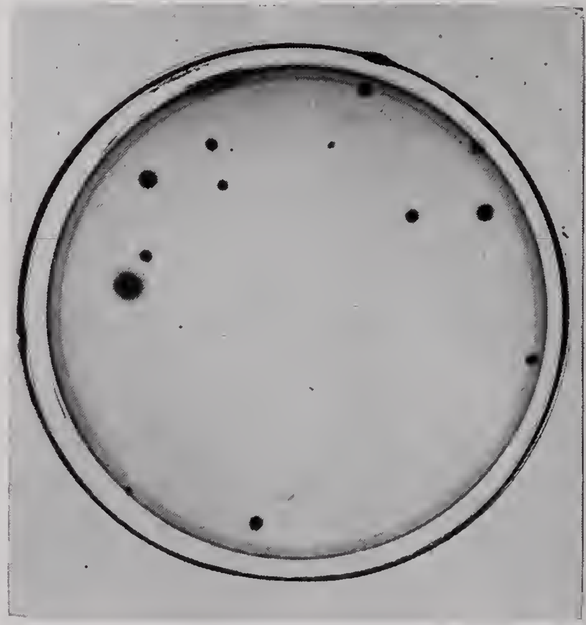

Figure 2. Stool from the same patient after 5 days treatment with sulfaguaridine: Thirteen colonies.

23 cases receiving sulfaguanidine, 5 were unaffected, in the other 18 the temperature and leucocyte count fell within 24 to 48 hours, there was a pronounced improvement in the general clinical condition. The diarrhea abated and the blood, pus, and mucus quickly disappeared. Lyon used an initial dose of 0.1 gram per kilogram of body weight following with a maintainance dose half as large every 4 hours. This therapy in dysentery is most effective when started during the first 2 or 3 days of the disease.

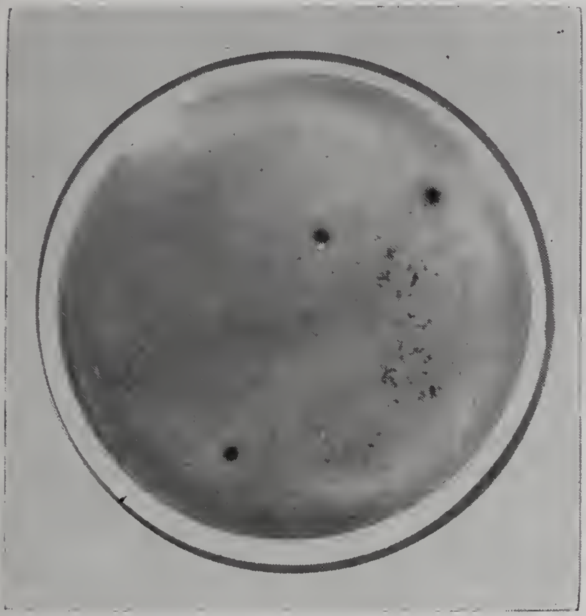
Figure 3. Stool from the same patient after 8 days treatment with sulfaguanidine: Three colonies.

Isolated cases of apparent relief from the intractible diarrhea associated with amebiasis have been reported but it is too early to draw any conclusion in regard to its value in this field. In chronic ulcerative colitis the drug is of no value whether given by mouth or used as an irrigant directly on the mucosa of the colon.

SUMMARY

In man sulfaguanidine exerts a profound bacteriostatic and bacteriocidal effect on the gram negative organisms of the gastro-intestinal tract, and a less pronounced effect upon the rest of the flora. This effect is not uniform in all cases. By virtue of this property, it is a near-specific drug in the treatment of acute bacillary dysentery. In surgery it has rendered safer the performance of open anastamoses in the colon and rectum and their healing without infection or fistulae. The drug may produce decided toxic reactions and should be used with care.

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Sulfadiazine Effective for Influenzal Meningitis

Complete recovery of 5 of 7 children under 4 years of age from the highly fatal condition, influenzal meningitis, by treatment with sulfadiazine, a member of the sulfanilamide family of drugs, is reported in The Journal of the American Medical Association for May 23 by Wallace Sako, M. D.; Chester A. Stewart, M. D., and Joel Fleet, M. D., New Orleans.

Influenzal meningitis is an inflammation of the membrane enveloping the brain and spinal cord caused by the bacteria, Hemophilus influenzae, formerly thought to be the primary cause of influenza but now generally accepted as a secondary invader in complicated cases of influenza which in itself is caused by a virus.

One of the 7 children treated apparently died from a surgical procedure rather than the meningeal infection, the authors say, and the other child died after premature stopping of the sulfadiazine treatment and the contraction of chickenpox.

The three physicians say that "Various reports have emanated from Charity Hospital (New Orleans) reviewing the cases of influenzal meningitis. Tripoli in 1936 stated that 20 cases of influenzal meningitis seen from 1925 to 1934 were all fatal. Aleman in 1940 reported that from 1935 to 1939 inclusive 27 cases were treated with no recoveries. Bryan and Musser in 1941 remarked that for the past five years there had been 57 cases of influenzal meningitis treated with two recoveries. Forty-five of these cases occurred in children under 3 years of age with one recovery, this being in an infant 11 months old . . .

"These reports reveal how gloomy the outlook for influenzal meningitis may be . . . As far as we are aware there are no reports in the literature relative to the use of sulfadiazine in influenzal meningitis . ."

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

THE MALPRACTICE INSURANCE PROBLEM IN NEBRASKA

On another page in this issue of The Journal is a report of the Insurance Committee of our Association. This report was accepted by the House of Delegates at the last annual session in Omaha, a fact which lends official recognition to the proposed contract. There is not a practicing physician in this state who has remained untouched by the difficulty of meeting the insurance problem. Some have been flatly rejected as insurance risks, and all who were accepted were forced to pay premiums out of proportion to the risk which they constituted. To many insurance policies were denied unless they purchased other coverage from the same agent or carrier.

Dr. Johnson's report therefore constitutes good news. And considering the thoroughness with which the Committee has worked for many months the recommendations will be welcomed as sound and reliable. It must be remembered, however, that neither the chairman, nor any other member of the Committee, or any officer of the Nebraska State Medical Association, singly or in a small group, can make out of this proposal a successful plan which will alleviate our insurance dilemma in the near future. To do this will take the full cooperation of our entire membership.

To the perennial inquirers who repeatedly ask, "Why doesn't the Society do something?" this report should be both an answer and a challenge. The Association has done its job of securing an insurance carrier. The Committee has the right to expect that every member in turn will do his utmost to give it a fair trial.

DR. WILLIAM P. WHERRY

Dr. William P. Wherry, retiring President of the Nebraska State Medical Association, died in St. Catherine's Hospital in Omaha, Saturday, June 13, 1942. The end of a successful and colorful career came after a brief recurrence of a coronary occlusion, the first attack of which occurred a little over two years ago while attending the annual sessions of the Academy of Ophthalmology and Otorhinolaryngology in New York City. In the history of that organization, Dr. Wherry's name is certain to occupy a most prominent part. For many years its secretary, he devoted a large share of his time and effort toward the interpretation of its professional and public functions in America. Today the Academy is one of the best known medical organizations in this country.

His ability as an organizer was widely recognized. With these talents he was generous to a fault, serving on committees whenever and wherever his guidance was solicited. He appreciated honor for honor's sake, displaying a boyish modesty when recognition came his way. He was as pleased with his tenth re-election to the comptrollership of the Omaha Mid-West Clinical Society as he was thrilled with election to the presidency of the Nebraska State Medical Association in 1940, and with the honorary Doctor of Science degree from Wayne University in 1941.

At the conference table with his colleagues, in the amphitheatre before his students, or over the card table with his friends, Dr. Wherry was full of anecdotes and information for the amusement and interest of his listeners. His choice of words was at times unusual. But he was himself an unusual man. Always tactful, he had the happy ability of inspiring those about him with their own importance. His smile was as genuine as it was broad. He loved people and people loved him. He was a good fellow.

The exhortation in the presidential address last May, "It is later than you think," looms as prophetic in the light of fateful reality. Or was it intuition subconsciously shunted to other channels of thought? Dr. Wherry had lived a useful and interesting life. His premature departure from the scene of activity will be acutely felt not only in Nebraska but, indeed, in professional circles throughout the country.

ACUTE ANTERIOR POLIOMYELITIS—A NEW CONCEPT ON SYMPTOMOLOGY AND TREATMENT

Ever since physicians became conscious of the disease infantile paralysis, the anatomic-pathologic factor has remained the predominant consideration. Emphasis was placed on the inflammatory reactions in the anterior horn and all symptoms were interpreted as essentially emanating from that region of the cord. Sound therapy called for splinting, or for complete immobilization of limbs in order to prevent overstraining of affected muscles, and occasional exhibition of drugs for aleviation of pain. Of these patients who survived the acute process some became entirely well, others remained paralyzed and deformed. New proposals on etiology and prevention have come periodically to be rejected almost immediately upon their provisional acceptance.

In 1940, Sister Kenny, an Australian nurse, came to America with a new interpretation of the pathology of poliomyelitis, a concept which she has demonstrated, as offering a rational basis for successful treatment in the acute stages of the disease, and improvement in cases whose deformities are of recent origin. The disease, according to Miss Kenny, affects not only the anterior horn cells, but also the adjacent portions of the cord. It may involve the central nervous system including the sympathetic portions. The result is: muscle spasm, incoordination, and mental alienation(1).

It is toward these principles that treatment is directed in the Kenny method. That the results are most encouraging in the light of results hitherto obtained may be gleaned from a recent paper by Pohl(2) and also from a discussion of the subject by J. E. M. Thomson(3). Pohl reports twenty-six cases of acute anterior poliomyelitis treated by Sister Kenny and her staff at the Minneapolis General Hospital over a period of eighteen months beginning in the fall of 1940, with no deformities. After careful analysis of this system of therapy, this author urges that "the method should be immediately adopted as the fundamental treatment of the disease. As the condition affecting the muscles appears with the onset of the disease it is imperative that treatment be instituted as soon as the diagnosis is established."

However, lest physicians become over-optimistic about infantile paralysis in general and thus issue an unqualifiedly favorable prognosis on the individual case it must be borne in mind that in the severe type of infection enough anterior horn cells may be destroyed at the outset to cause complete flaccid paralysis.

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2. John F. Pohl: The Kenny Treatment of Anterior Poliomyelitis. J. A. M. A., Vol. 118, p. 1,428, April 25, 1942.

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A Message from Your President

DEXTER D. KING

We are entering a year in the affairs of the State Medical Association attendant with the perplexities and uncertainties of a great war program. What the future has in store for us no one can foresee much less is one able to plan very far ahead with this exception: determination to carry on the activities of this Association as nearly normal as will be possible. One of the many problems which is cause for concern will be our County and District Society meetings. The last few years have shown a gradual increase in the number and popularity of the meetings. Besides the District Societies many Counties with too few members to warrant local meetings have formed separate and distinct groups consisting of two or more County organizations. These meetings are necessary and important to the profession and have two main functions: scientific and social. The scientific programs will have to change in character to some extent, due to the conditions we face during this war period. A study of the programs show that in most instances the speakers have been from the larger centers or from the faculties of our medical schools. The availability of these men will be greatly curtailed due to the loss of many of them to the armed forces, the accelerated program in the medical schools and the extra duties placed on those who of necessity must remain at home. Along with this the rubber shortage and other restrictions will materially limit the travel of guest speakers.

In spite of the fact that every local doctor in active practice has learned something of value or interest which could be imparted to his fellow practitioners he remains reluctant to appear on these home programs.

Many meetings could be entirely of a local nature. The discussions precipitated by such a program will be, I feel confident, both interesting and instructive. The social and fellowship bases of these meetings, too, are of inestimable value. The days of open jealousies and ill feeling among doctors are a thing of the past. No more do we throw the other doctor's medicine out the window with a few choice remarks or refuse to associate with him in any way. Through contact at medical meetings we have come to know one another better and found out that the other fellow is not so bad after all and that maybe we ourselves have been a little bit to blame.

The advent of the Woman's Auxiliary has been a great social asset. It has become quite common for the Auxiliary to schedule its meetings at the same time as the doctors'. Both groups may or may not take dinner together depending on local arrangements; after which the ladies conduct their own meeting and discussion. This system creates better understanding, more friendships and contributes greatly to the strengthening of our organization.

Dexter D. King, M. D.

ANNOUNCEMENTS

The International College of Surgeons invites all members of the Nebraska State Medical Association to the National Assembly, July 15, 16, 17 and 18, in Denver, Colorado. Because of the War Emergency, all physicians in good standing in their state medical societies are welcome to attend this assembly.

The American Congress of Physical Therapy will hold its twenty-first annual scientific and clinical session 9, 10, 11 and 12, 1942, inclusive, at the Hotel William Penn, Pittsburgh, Pa. The annual instruction course will be held from 8:00 to 10:30 a. m., and from 1:00 to 2 p. m. during the days of September 9, 10 and 11 and will include a round table discussion group from 9:00 to 10:30 a. m., Thursday, September 10. The scientific and clinical sessions will be given on the remaining portions of these days and Saturday morning. A new feature will be an hour demonstration showing technic from 5:00 to 6:00 p. m. during the days of September 9, 10 and 11. All of these sessions and the seminar will be open to the members of the regular medical profession and their qualified aids. For information concerning the seminar and program of the convention proper, address the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Illinois.

Report of Insurance Committee

The following report of the Insurance Committee was presented verbally at the January meeting of the Council. Due to a misunderstanding of procedure this report was not called for reading by the House of Delegates.

For the protection of our earnings and peace of mind we must either carry insurance or make ourselves judgment proof. The latter method leaves a lot to be desired. If insurance providing defense against this hazard is the best and most honorable method we must as a society develop into a Mutual Insurance Company or we can buy this defense of companies already in this field. In the judgment of every member experienced in the affairs of our State Society insurance of the members by the Society is impossible.

Your Insurance Committee has been studying the malpractice insurance situation in Nebraska with a view of obtaining, if possible, a more satisfactory coverage and at a reduced rate from that which has been charged by the leading companies for a number of years. We have found that rates in Nebraska have been somewhat higher than in other states, which is due, no doubt, to the experience of insurance companies with malpractice in Nebraska over a period of years; in fact, this insurance has been difficult to secure by many of our members, and we feel that a number of companies have taken advantage of the situation and have not only charged increased rates, but have also required the individual physicians to buy compensating lines of insurance before they could secure malpractice coverage. We have hoped to remedy this situation.

During 1926 the first insurance committee was appointed by the president of the Nebraska State Medical Association. This committee negotiated a group policy with the U. S. F. and G. Company of Baltimore. It was a standard form $10,000 to $30,000 policy and was sold at a premium of $20.00 per year. This policy was continued until October 1, 1932, at which time it was cancelled at the incidence of the insurers. In discontinuing this policy the company presented some interesting facts and figures, as well as observations pertaining to malpractice insurance in Nebraska, giving these as their cause of cancellation. The loss ratio shown during the time the policy was in effect was 166%, and they also show an average of one claim to every 25 physicians insured, which was nearly twice the normal average. They presented as one of the chief underlying causes of this high claim frequency the fact that it was permissible to admit evidence in the courts of Nebraska that the defendant physician carried a policy of liability insurance. Another underlying cause seemed to be that the statute of limitations on malpractice accounts were the same; namely, 4 years each. This made it possible for a patient to file a malpractice suit when he was pressed by the physician for collection. A third underlying cause seemed to be disorganization among the medical men themselves. There is not one of house who does not live in a glass house. So the tendency to throw stones is most dangerous to each of us.

On March 13, 1936, a decision was handed down by the Nebraska State Supreme Court in the case of Fielding vs. Publix Cab Company, denying permission to permit evidence in the courts of Nebraska that the defendant physician carried a policy of liability insurance. This was an extremely important decision affecting malpractice in Nebraska, and the incidence of suits has had a downward trend since that time. A recent change in the statute limitations for malpractice lowering it from 4 years to 2 years has also been of great assistance in lowering the incidence of suits.

On May 1, 1927, Dr. R. W. Fouts was elected chairman of the Medical-Legal Advisory Committee, and the splendid work which Dr. Fouts has done on this committee since that time has also been effective in lowering the number of suits and the number of decisions won in the state.

These combined factors have given Nebraska a favorable malpractice experience during the past 5 years and the amounts paid out by insurance carriers during the past 5 years have been negligible.

Whether the insurance companies are not cognizant of these changes in the malpractice situation in the state, or whether they have taken advantage of a former situation is unknown to your committee, but we have found that malpractice rates have remained at a high figure and that many of our members have had difficulty in securing protection. This has caused a rather chaotic situation, and many of our members have ceased to carry the protection which they should have, and many of those who have felt the need of protection have paid more or less exorbitant rates.

It would seem a good plan for the members of the Nebraska State Medical Association to pool their buying power. If our policies were concentrated in one company, we should be able to get a more favorable rate. Starting from this premise, we encountered extreme difficulty in finding a company that was interested in giving this protection on any basis. We have been turned down by many companies, but after diligent search we have found a company that is willing to cooperate in every way toward building a satisfactory policy for us.

This company is the Zurich General Accident and Liability Insurance Company with headquarters in Chicago. This is one of the substantial companies in America, having originated in Switzerland and later transferring to American headquarters. At the present time they have almost forty millions of assets in this country, and on that basis can be considered as a home group. They have agreed to write a standard form ten and thirty thousand limit policy with some liberalized forms over the regular standard form at 5% less than manual rates, with an agreement that if our experience continues on a good basis for the next year, and if the policy is patronized by Nebraska physicians, the rate will be further lowered an additional 10% at the end of the one year. The present manual rate in Nebraska is $35.00 per year for the general practitioner and $40.00 per year for a surgeon. This makes the rate $33.25 and $38.00, respectfully. They will also issue coverage for x-ray for treatment, but this must be done on an individual basis and each applicant for x-ray protection receives a separate rating. The policy is not written on a group basis at the present time, but is written on an individual basis. However, we have the assurance that if the experience is good and we later prefer it, we may be able to change over to a group policy basis.

Your committee believes that this is the best policy to be secured for Nebraska physicians at the present time. We have found that this company is solid and that the physician will have adequate protection. If the cooperation is complete and our members patronize this policy, it can easily mean that within a few years Nebraska will be buying this type of insurance at rates on an equal basis with other states.

To any member interested the committee hesitatingly recommends this company as the one which is anxious to help us solve this problem.

The Executive Secretary will furnish forms and instruction for applying for this defense.

Earl Johnson, M. D.,
Chm. Insurance Committee.

NEWS and VIEWS

A "War Session" was held in Omaha, May 26, under the auspices of the American College of Surgeons. The session was held in the Paxton Hotel. It was for medical and hospital personnel in Nebraska and Iowa. Among the speakers were:

Lt. Col. B. Noland Carter, medical corps, office of the surgeon general, Washington, representing the army; Capt. Frederick P. Hook, chief of the surgical service of the United States Naval hospital at Washington, the navy; Dr. Wallace D. Hunt of Omaha, medical officer, Seventh Civilian Defense region, the OCD, and Dr. Harold S. Diehl of Minneapolis, member of the directing board, the procurement and assignment service. Among other speakers were: Drs. Herbert H. Davis, Charles M. Wilhelmj, Robert D. Schrock, and Charles W. McLaughlin, Jr., of Omaha; Dr. Thomas G. Orr of Kansas City, Dr. Arthur Steindle of Iowa City, Dr. George S. Baker of Rochester, and Drs. Warren H. Cole and Malcolm T. MacEacher of Chicago.

Dr. A. E. Bennett presented a paper and movie demonstration entitled "Curare as a Diagnostic Test for Myasthenia Gravis" at the meeting of the American Neurologic Association, Drake Hotel, Chicago, June 5th, 1942. He was also discusser of several papers at the A. M. A. meeting, Atlantic City, June 8-12, and presented two movie demonstrations, "Horse Serum Neuritis" and "New Modifications of Convulsive Shock Therapy."

Dr. W. J. Arrasmith of Grand Island was appointed chief surgeon and medical director of the Ordnance plant at Grand Island. There is provision for the construction of a plant hospital with all modern facilities for diagnostic and surgical work.

Dr. Francis J. Bean for the past fifteen years assistant superintendent of the University hospital has resigned his position to become superintendent of a private hospital at Bennington, Vermont. Dr. Bean was a leading figure in hospital organization in Nebraska, and one of the organizers and charter members of the Omaha Hospital council. Dr. Bean will be succeeded by Dr. R. Allyn Moser of Omaha, who accepted the position on part time.

Beginning July 1st Dr. J. P. Tollman, professor of clinical pathology at the University of Nebraska Medical College will become assistant dean of the College.

The city council of North Platte last month voted to appropriate $1,482 as its share toward the maintenance of a county health unit inaugurated several years ago under the auspices of the State Health Department.

The Kellogg foundation of Battle Creek, Michigan, has made available the sum of $10,000 each to Creighton and the Nebraska Medical Colleges, the money to be used for loans to needy medical students. Smaller sums were also appropriated toward similar needs in the dental school and the nurses' training school.

Until April 5, 1941, 189 Nebraskans had been rejected for military service because of venereal diseases. A recent United States Public Health Service report states that until that time tests were made on 22.231 selectees and volunteers for the army in Nebraska. Of these 145 presented syphilis, and 44 gonorrhea.

Dr. James F. Kelly's exhibits of the mobile unit for low x-ray voltage received much attention at the sessions of the American Medical association in Atlantic City.

The following press release from the State Health Department was issued May 22:

Heart disease continued as Nebraska's number one disease in 1941, accounting for 1,961 of the 12,203 deaths for the year.

Cancer was next with 1,676, a slight increase over previous years.

Pneumonia took 457 victims, against 626 in 1940. Fatalities from tuberculosis dropped from 227 in 1940 to 204 in 1941.

Dr. A. L. Miller, state health director, predicting Nebraska probably will lose 35 percent of its young physicians to the armed forces, urged establishment of full time health units with qualified personnel in every county. This, he said, would "help control many preventable diseases."

Last year 22,186 babies were born in the state, compared with 22,153 in 1940.

Dr. Roy W. Fouts of Omaha was reelected Vice Speaker of the House of Delegates of the American Medical Association at the last session at Atlantic City, New Jersey.

PUBLIC HEALTH AND MEDICAL SERVICES FOR THE SANDHILL REGION

The Journal is indebted to Dr. E. W. Rowe of Lincoln, for this elucidation of the Medical Service plan recently featured in the Nebraska Press.—Editor

There is attached to this discussion of a medical cooperative Health Plan now being set up in Thomas County, a brief outline of the scope of the services to be offered. A brief history surrounding the achievement of this project will be of interest to the medical profession of the State of Nebraska, especially since this is the first cooperative plan of this kind tried in the United States. It is not generally adapted to all communities but seems to fit the situation in Northwestern Nebraska, a cattle country with a small amount of farming and a sparsely settled community.

The State Health Planning Committee represents about forty-eight different organizations. In carrying out their great objective, "The Medical Care for the Rural People," they turned for leadership to the Extension Department of the Agricultural College, University of Nebraska, and to the Nebraska State Medical Association. For a year now a careful study has been made from the medical, social, and economic standpoints, especially of the sparsely settled counties, of the medical services available and the resources obtainable, to provide these people with adequate medical care.

This particular part of the state has fundamentally a prosperous economic life. It was not so adversely affected during the past years of farm depression as were other counties. The land use is mainly cattle raising and farming. The people are widely distributed and the trade areas necessarily far apart. The sparsely settled portion of the state which was studied, is made up of twenty-two counties out of the total of ninety-three. About 1,400 people make up a county and the railroads run in one direction. With the changes in medical practice which have gone on since the introduction of automobiles and truck transportation, it has become increasingly difficult for a physician to maintain a practice in this country and to deliver adequate medical care. The problem is one almost entirely economic. Today most of that part of the state does not have access to general medical care, specialists' service or hospitalization. Attempts have been made by the people to secure physicians to locate in all of the towns, but it has become increasingly difficult to obtain and adequately compensate the best type of a doctor.

Attempts to solve the problem locally having failed, it was evident that these people needed outside help, not so much in the way of added resources as in planning. The problem was not one of securing funds from Foundations, State or Federal sources. It was not charity that was needed but a chance to organize all the resources of the community to help itself. With proper leadership, these communities could help themselves.

The Extension Department of the Agricultural College, University of Nebraska, has had long experience in working with the agricultural and cattle-raising people. They are conservative and above all anxious to teach the people to help themselves. Farm cooperatives have been successful in Nebraska. So it was presumed that the same principle might be applied to the manner in which the people might provide medical care for themselves. In order to give the movement capable supervision, after all the plans had been thoroughly laid down in writing, the Extension Department with the Nebraska State Department of Health assumed the leadership in organization of the cooperative in a business-like way. It was only after the recommendation of your Committee on Economics that the State Department of Health joined in with their resources and active assistance.

The plan proposed is sound. It provides general medical care and preventive medicine. It gives the service locally and where necessary advice is given for hospitalization and special list services. The families will have free choice of physician; joining is purely voluntary. The physician in charge will have complete responsibility for all the medical work. The type of practice will be adequate, for the compensation is sufficient and the facilities to be provided will assure supplies and proper medication.

Thus two groups are brought together: (1) the representatives of the people pooling their resources, and (2) the medical profession, or the one selected to assume the duties of the profession. He will be especially chosen and trained for the job. There will be no third party and no State or Federal Bureaus to hold the purse strings or to give the last word when decisions are made. The project has had the advise of the Extension Department, the Medical Association and the State Department of Health.

The effort is being made to preserve the benefits of many years of medical advancement, to maintain its traditions and to avoid radical social experimentation. These people have been denied adequate medical care, not through their own fault and not through the fault of the medical profession, but entirely through a revolution of social processes into which the present system did not fall. Now there will be no lowering of medical standards, and ways and means have been found to continue the present level of medical service with decreasing personnel and modern transportation.

In the solution of this problem, the committee has not been so much interested in the higher income groups—they can purchase the service—nor in the indigent group, as they are fairly well provided for by county, state and federal support. It has been deeply concerned with adequate medical care for the average man and his family. This problem in the sparsely settled counties has been challenging, for the situation is almost a paradox. The country itself is economically sound and prosperous. By helping the people to help themselves the best traditions of the medical profession can be maintained. During the next year the committee will watch with interest the progress of the special F. S. A. program in an experimental county. It has recommended group hospitalization to the average county as a means for taking care of the catastrophe situations which arise in the family of moderate means. Further study will be made in the field of adequate medical care for the people of moderate means.

Public Health and Medical Services for the Sandhill Region

I. A Voluntary Health Association securing its funds from 200 or more member families, from School Districts, from County Commissioners, from the State Department of Health, from special gifts and bequests.

Services offered are those of a physician and a public health nurse. In addition, prescribed drugs are furnished.

Every family contributing $30.00 a year and every single person contributing $20 a year will be assured the services outlined below. (The family—husband, wife, and dependent children).

II. Physician's services available to all members of the association.

A. Preventive measures.

1. Complete annual physical examination of each member of the family (exclusive of x-ray).

2. All necessary laboratory work for adequate diagnosis, with the facilities of the State Department of Health laboratories.

3. Immunization and vaccination against smallpox, diphtheria, typhoid, whooping cough, T-B, skin tests and other protective measures as recommended by the State Department of Health.

4. As soon as possible, at least one home visit to every family each year, and if necessary more, to advise on general health problems and sanitation in the home and on the ranch.

B. Care in case of illness.

1. Each member of the family will receive any necessary consultation, diagnosis and treatment at the doctor's office. The association will set up a definite schedule of time when the doctor will be in Halsey, Purdum, Seneca and Thedford. Other visits will be made by appointment.

2. Any dressings and drugs needed at the time of the visit.

C. Other services at small additional cost.

1. Home visits will be made on call at rates agreed upon. The suggestion is that calls be $1.00 a home visit in town, and mileage charges can be determined by zones at approximately 25 cents a mile, one way. This is mainly to prevent excessive home or especially night calls.

2. Obstetrical care with special emphasis upon prenatal and post-natal care at an additional cost of $10.00.

III. Nursing services available to all members of the association.

A. Make calls in homes where there is illness to assist the family in carrying out doctor's orders and to demonstrate and supervise care of patient.

B. Assist doctor with deliveries and minor surgery in the office.

C. Visit all families to help them in planning to meet their health needs and to carry out recommendations made by the doctor at physical examination.

D. Make regular calls on persons with special problems, such as expectant mothers and mothers of young children.

IV. Drugs available to all members of the association.

A. All common prescribed drugs except insulin and biologicals, etc., will be furnished as prescribed by the doctor.

V. Public Health Services that the doctor and nurse will provide for all the area, based upon contributions from school districts and county.

A. The physician will visit all schools annually, oftener if necessary.

B. He will administer a general health program to protect the community against communicable diseases, poor sanitation, and develop programs of health education, etc.

C. The nurse will assist the physician in carrying out the program.

D. She will visit all schools and act as consultant to teachers on health matters, demonstrate procedures such as vision and hearing testing, hand washing and morning inspection.

E. She will teach classes in home nursing, and special classes for Normal Training students.

F. She will make visits to any individuals with particular problems, such as expectant or young mothers.

VI. How will the doctor and nurse be chosen?

The doctor and nurse are to be selected by the association, subject to approval of the State Department of Health.

VII. Cost of the Program.

Doctor's salary, nurse's salary, auto travel, scientific supplies and equipment, common prescribed drugs, office overhead and office help—approximately $12,000.00.

Costs may be met as follows:

200 families contributing $30.00 a year	$ 6,000.00
Contributions from school districts and county commissioners	1,000
Contributions from the State Dept. of Health	4,000
Extra fees, fees from non-members, gifts, etc.	1,000
Total	$12,000

Success of the program will depend upon the consistent financial support, year after year, by all association members, the annual payment being made in advance.

You are invited to become a member of the association, and are asked to express your desire to do so by filling out an application card.

NOTES

Family. Any natural household unit, excepting hired man. A hired man is considered another single person, and he with his employer would arrange between themselves as to the payment of the $20.00 "single" fee.

Home Call Charges. For members living within a radius of a mile of Seneca, Thedford or Halsey, $1.00 a visit. For members in the country—25 cents per mile, measured from the member's nearest trading center.

Charges for Non-members: The physician will give medical care to non-members of the association at regular physician's charges as approved by the association and the physician, plus the standard mileage charge of $1.00 per mile one way. Such fees go to the health association.

Business Arrangements: Members of the Health Association will elect a Board of Directors who will be responsible for the collection and disbursement of all funds, setting up by-laws, and arrangements with the physicians and nurse, and all other matters of concern to the members.

WOMAN'S AUXILIARY

President—Mrs. W. W. Carveth
3345 Grimsley Lane, Lincoln, Nebr.
President-elect—Mrs. A. L. Miller
Kimball, Nebr.
First Vice-President—Mrs. Herbert Davis
112 South Elmwood Road, Omaha, Nebr.
Second Vice-President—Mrs. Charles Arnold
2480 Lake, Lincoln, Nebr.
Secretary—Mrs. O. A. Reinhard
2833 Sheridan, Lincoln, Nebr.
Treasurer—Mrs. K. F. McDermott
518 South Clay, Grand Island, Nebr.
Historian—Mrs. Floyd Rogers
3015 Stratford, Lincoln, Nebr.

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

RESOLUTIONS MAY 7, 1942

Be it resolved that we, the members of the Woman's Auxiliary to the Nebraska State Medical Association, assembled in Omaha in annual meeting express our gratitude to:

1. The president and officers of the State Medical Auxiliary for a very successful and profitable year.

2. The Douglas County Auxiliary for its gracious hospitality during the convention.

3. The officers, delegates, and members of the State Medical Association and the Douglas County Medical Association for their many courtesies, including their financial assistance.

4. Mrs. L. A. DeLanney, acting president of the Douglas County Auxiliary and general chairman of convention arrangements, and her assistants for their efforts in our behalf.

5. Mrs. L. D. McGuire, whose home was so charming a setting for the Auxiliary tea.

6. And to the management of the Hotel Fontenelle which served as Auxiliary headquarters.

7. And be it resolved that we, the members of the Auxiliary to the Nebraska State Medical Association, pledge our support to our incoming president, Mrs. W. W. Carveth.

8. And be it further resolved these resolutions be printed in The Journal of the State Medical Association and spread upon our own minutes.

Also that the State Auxiliary secretary be instructed to send letters to those mentioned in this report.

Respectfully submitted,
Mrs. W. W. Carveth,
Mrs. A. L. Miller.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The **Tenth Councilor District** met at Ingleside, Nebraska, Thursday, May 28, 1942, with the following program:

Noon Luncheon at Ingleside State Hospital; "Your State Medical Association," Pres. D. D. King, M. D., York; 1 p. m.—Business Session; "Pertinent Comments," Mr. M. C. Smith, Ex. Sec.; Reports—Councilor H. S. Andrews, M. D., Delegate, J. C. Nielsen, M. D.; 2 p. m.—"Pituitary Disorders with Clinic and Lantern Slides," E A. Coats, M. D., Ingleside; 3 p. m.—"Medical Procurement and Assignment Up to Date," Roy W. Fouts, M. D., Omaha; 4 p. m.—"Relationship Which Medicine Is Having in the War Program," C. W. M. Poynter, M. D., Omaha.

The **Madison Six County Medical Society** met Tuesday, June 16, 1942, in the Hotel Norfolk, Norfolk, Nebraska. Dinner at 7 p. m. The program was as follows:

"Modern Trend in Carcinoma of the Prostate," Arbor D. Munger, M. D., Lincoln; "Exophthalmic Goiter," Clayton Andrews, M. D., Lincoln.

The regular meeting of the **Five-County Medical Society** was held Thursday, June 4, 1942, at the Stratton Hotel, Wayne, Nebraska. Dinner was served to twenty members, their wives and guests.

The meeting was called to order by Dr. R. P. Carroll, president, at which time a report of the delegates to the Nebraska State Medical Association Annual Assembly was heard.

The scientific program was in charge of Dr. A. A. Larson of Homer, Nebraska, and was as follows:

"Arrhenoblastoma," Case Report, W. R. Blume, M. D., South Sioux City, Nebraska; Case Reports and Presentation of Patients, A. A. Larson, M. D., Homer, Nebraska.

Eleventh Councilor District Meeting and Clinics was held at North Platte, Nebraska, on April 15, 1942. At 2 p. m. clinics were held at St. Mary's Hospital.

Drs. N. R. Kretzschmar and Harry A. Towsley of Ann Arbor, Mich., conducted the clinics.

Dr. J. B. Redfield, Dr. J. H. Millhouse and Dr. Harvey L. Clark of North Platte, Nebraska, each presented an obstetrical case. Drs. H. M. Harvey and B. W. Pyle of Gothenburg and Dr. Edw. Stevenson of North Platte presented pediatric cases.

A dinner was served to the doctors and their wives in the Pawnee Hotel at 6:30 p. m. After the dinner the ladies were entertained.

Dr. Joel Anderson, district president, then called a business meeting. Dr. R. H. Loder, director of the clinics, then took charge and introduced Drs. Kretzschmar and Towsley who lectured on medical phases of obstetrics and pediatrics.

DEATHS

Dr. William P. Wherry, was born in Omaha, on June 16, 1880. He attended Omaha schools and graduated from the University of Nebraska Medical College in 1903.

Dr. Wherry was known widely throughout the country as a eye, ear, nose and throat specialist. He was the secretary of the American Academy of Ophthalmology and Otolaryngology, since 1927. He was active in all phases of medicine, and was a charter member of the certification boards of the various specialities. Dr. Wherry was chairman of the Department of Otolaryngology at the University of Nebraska Medical College, at the time of his death. He belonged to many local and professional societies, in which he played a very active part. He was president of the Omaha-Douglas County Medical Society in 1917, and at the time of his death was retiring president of the Nebraska State Medical Association. In June, 1941, the Wayne University in Detroit conferred on Dr. Wherry the honorary degree of Doctor of Science.

Courtesy Omaha World Herald

Death was due to coronary occlusion and occurred in St. Catherine's Hospital in Omaha on June 13, 1942.

Surviving are Mrs. Wherry, two sons, Dr. Walter J. Wherry and Robert W. Wherry, and a daughter; a brother and two sisters.

Dr. George Whiteside, Omaha, retired; was born in 1855. He graduated from Harvard Medical school in 1882. He lived in Omaha 30 years, and died April 20, 1942.

Dr. William H. Wilson, Ponca City, Oklahoma, was born in 1856. He graduated from the University of Illinois in 1884. He practiced in Pawnee County for several years following which he joined the Nebraska State Health Department in 1908. He became director of the department in 1925 to 1929. Following his resignation from the Health Department he practiced in Lincoln until his retirement in 1935. Death came April 12, 1942.

Dr. William Seth Yager, Nebraska City, was born in Nebraska City in December, 1868. He was a veteran of the Sioux Indian War and World War I. He died May 26, 1942, following a heart attack.

Surviving are Mrs. Yager and a brother.

Dr. Joseph Henry Downing, Rising City, Nebraska, was born in 1856. He graduated from Rush Medical School in 1882, and returned to Nebraska in 1891. He died May 27, 1942, in a Columbus Hospital. Surviving are a wife and two daughters.

DOCTORS IN THE SERVICE

Dr. E. G. DeFlon is a captain in the army stationed at Phoenix, Arizona .

Major G. L. Sandritter, formerly of Norfolk, is at Camp Ord, California.

Dr. C. R. Green of Niobrara is a captain in the army about to report for duty.

Dr. H. D. Myers of Howells is a first lieutenant stationed at Fort Leonard Wood.

Dr. Roy S. Cram, formerly of Burwell, is a major stationed at Fort Custer, Michigan.

Dr. Wayne Waddell of Beatrice is at Barnes General hospital in Vancouver, Washington.

Dr. Arthur M. Greene of Omaha is a captain serving at France Field, Panama Canal Zone.

Dr. H. D. Clarke of Seward is a lieutenant-colonel in the army stationed at Camp Hulan, Texas.

Dr. H. D. Miller, formerly of Laurel, is a first lieutenant in the army stationed at Fort Sam Houston, Texas

Dr. C. L. Chamberlain of Chadron is a first lieutenant in the Medical Corps stationed at Fort Riley, Kansas.

Dr. R. B. Palmer of Lincoln is a captain in the Medical Corps stationed at Fitzsimmons General Hospital.

Dr. D. H. Morgan of McCook is lieutenant commander in the navy stationed at Great Lakes Naval Training Station.

Dr. Harry Stokes of Omaha is a major in the Medical Corps stationed at Fitzsimmons General hospital in Denver.

Captain McNeil Musselman is reported missing in action in the Philippines. When last heard from, Captain Musselman was stationed in Corregidor.

Dr. T. A. Egen of Superior has passed the examination and was to be commissioned to serve in the army, possibly at Fort Leonard Wood, Missouri.

Dr. J. E. Sobota of North Bend is a first lieutenant in the Medical Corps of the army stationed at Hoff general hospital, Santa Barbara, California.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. Paul H. Ellis of Omaha vacationed in California in June.

Dr. W. D. Mackechnie of Indianola is in the Lincoln General Hospital.

Dr. Fred Coleman of Lincoln recently underwent an operation for appendicitis.

Dr. Kenneth Prescott has moved from Long Pine and is about to enter the army.

The sympathy of The Journal goes to Dr. R. H. Baer of Ashland on the death of his mother, Mrs. Edward Baer.

Dr. A. B. Fellers, formerly of Palisade, has accepted a position as medical supervisor on an Indian reservation.

Dr. Olga Stastny of Omaha addressed the Chamber of Commerce Ladies' Night banquet at Wahoo the latter part of May.

Dr. Robert Rix of Manchester, New Hampshire, son of the late Dr. Rudolph Rix visited in Omaha the early part of June.

Dr. Joe Morrow celebrated his 50th year of practice on June 27. The doctor has been in Seward county since June 27, 1892.

Dr. William S. Kroupa was appointed recently coroner's physician to Douglas county succeeding E. A. Connolly who resigned.

Dr. O. H. Magaret who had left Papillion several years ago to join the CCC camp is planning on reopening his office in Papillion.

Dr. Albert F. Tyler of Omaha, who for many months had been a patient at the Immanuel Hospital, is convalescing at home.

Dr. Charles A. Tompkins of Omaha addressed the Child Study group of the American Association of University Women the latter part of May.

Dr. William L. Shearer of Omaha attended the meeting of the American Association of Oral and Plastic Surgeons in New York City in May.

Drs. J. A. Henske and J. L. Gedgoud of Omaha, attended the regional meeting of the Academy of Pediatrics in Cleveland, the latter part of May.

Dr. R. A. Frary of the State Health Department received his degree of master of public health at Johns Hopkins University at the annual commencement in June.

Dr. J. O. Latta of Clay Center was honored by his local Chamber of Commerce May 12th in honor of his fortieth anniversary of his entering into practice in Clay Center.

GROUPING LOCAL PRACTITIONERS— ANOTHER CONSISTENT CHALLENGER*

One Alternative to Government Health Insurance

Dr. S. Weir Mitchell said: "The rate of advance in medicine can be judged by what the country doctor is."

We have heard much about the costs of medical care. We will hear more. The subject has been popularized due to political propaganda and due to the many panaceas for scarcity proposed during the last economic depression. Scapegoat hunting has been popular also. The cart has been put before the horse. The public should first be concerned with quality and distribution. There exists a belief that one should begin with the superstructure and expect the foundation, the physicians, somehow to get in under. We would consider first the foundation. The keystone must be the family doctor, as the individual soldier is the keyman in our army of defense. This most authorities concede. Then we, too, should be heard.

In Colonial times the few physicians and hospitals were in the larger settlements. The population increased and spread. Doctors and hospitals went along. Later the private clinics came. Two causes interfere with giving the best in services to all. The highly trained physician remains in the larger medical centers. Yet over one-half the population and the present trend are rural. The method of rendering service remains the same as in Colonial days, each physician a lone individualist. Yet the complexities and costs of prevention and of diagnosis and treatment steadily increase. Herein lie the fundamental faults of our system. There is need of something more. Add it and we may find the solution to four unsolved problems:

1. Effective preventive medicine.
2. Local consultations, and with specialists, providing needed, continuous postgraduate instruction.
3. Emergency bed-care.
4. A painless method of payment where needed.

In preventive medicine, we refer to that which applies directly, not to our splendid public health measures. Though not entirely our fault, we practitioners have held too long to the monkish attitude of secluding ourselves in the monastery of private individual practice for cure only. Why must the average citizen continue to be so woefully ignorant of preventive measures? The compulsory insurance plans in operation in some forty countries fail to provide the best in curative care and also fail in preventive care. Professor Armstrong in The Health Insurance Doctor states that in England, France, and Denmark there exists a growing conviction in organized medicine that preventive care must become the concern of the individual practitioner. The grouped physicians of an average community could and would provide preventive medicine where we fail as individuals.

Why burden our busy hospitals with diagnostic problems which should be solved locally? The pooled knowledge, experience, and equipment of all the local men, grouped under one roof, would usually meet the need and stimulate the participants.

Why must ambulatory patients travel repeatedly to the city to consult specialists? We can collect the cases and bring out the specialists at intervals to collaborate with the family doctor. The postgraduate instruction thus provided would be invaluable.

Why must the home function as a hospital, unless because of inaccessibility and cost and because rural people dread hospitals? A few beds in a local center would care for emergencies and facilitate solving diagnoses. The centers would act as sifters for the hospitals, passing on the more serious cases.

Once grouped in such centers, the doctors, cooperating with interested laymen, would decide when a group plan of payment is needed based on local conditions, keeping machinery simple and the costs at a minimum.

True, efforts have been made to solve the question of costs by organized medicine, private agencies, and government bureaus. All are insurance plans and all fail to cover the item of paying the physicians for all services. We repeat—only local plans keep operating costs at a minimum with premiums within reach of small incomes.

Go back with us a few years and follow the trend of thought of our leaders. The President's Committee, which made a survey of the costs of medical care, reported:

"Community Medical Centers: The Committee's most fundamental, specific proposal is the development of suitable hospitals into comprehensive community medical centers, with branches and medical stations where needed, in which the medical profession and the public participate in the provision of, and payment for, all health and medical care, with the professional aspects of the service under control of the professional personnel."

The minority report recognized the advantage of group practice in communities where practically all the physicians can be joined in groups.

The ten-point program by the House of Delegates of the A. M. A. in 1934 held that any new type of plan must leave the larger share of authority in the hands of the profession. In October, 1934, the American College of Surgeons stressed local experiments. In February, 1935, again the House of Delegates of the A. M. A. emphasized the local solution as opposed to a national plan. The famous platform stressed the local solution. In November, 1939, Dr. Nathan B. Van Etten, President-elect of the A. M. A., said: "A system of medical service should be developed from the periphery toward the center. . . . Let us think of the school district, the township, the county, the state, and the federal government in that order in developing an American system of medicine under control of the American people." Paul de Kruif in Health is Wealth holds that health centers must be built, that they are not only lacking in many cities but "are almost non-existent in vast rural areas . . . These hospitals or centers would be run by local physicians. Here would be medical consultants to co-work and advise with the family physicians to establish informally that practice of medicine by groups of specialists which, without doubt, is the medicine of the future."

Recently, the proposed federal-built 50-bed hospitals caused hundreds of physicians to write urging clinic-centers instead—a cross-section of the opinions of rural physicians.

We are not one of those who believe the day of the individual is past. We do firmly believe the time is here when we shall see a pooling of knowledge and means in a community of effort, and not only in medical care. Dr. Alexis Carrel in Man the Unknown writes: "Individuality is doubtless real, but it is much less definite than we believe, and the independence of each individual from the others and from the cosmos is an illusion." Will we heed the trend of the times?

Local Clinic-Centers Would Provide:

In Preventime Medicine. (a) Co-operation with state and federal health programs, (b) logical locations for state clinics, (c) effective knowledge on preventive medicine endorsed by the local professional group, (d) periodic health examinations for all ages, prenatal to senile, (e) preventive inoculations.

In Curative Medicine. (a) Office space for the local professions, and specialists on the consulting staff and permanent staff as the volume of work warrants, (b) emergency beds, (c) clearing houses for gathering and sorting cases for local hospitals, (d) selection of research problems.

Public Advantages Based on Economics. (a) A uniform fee schedule, (b) an increase in public con-

(Continued on page xv)

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GROUPING LOCAL PRACTITIONERS

(Continued from page 264)

fidence due to better professional co-operation, (c) magnets to draw out cases now in need of care, (d) a sharing of the burden of free work now on the hospitals, (e) local co-ordination of all war-time activities concerned with health and emergencies.

For the Profession. (a) Preservation of the doctor-patient relationship, (b) a systematic setup under professional control, embracing any rural county, to mesh with the various plans now in operation, filling gaps, and making them more efficient, (c) easy, frequent consultations at reduced cost, thereby stimulating local participants, (d) postgraduate study by association with consulting specialists locally and more convenient absence from practice to associate with them at intervals in the city, (e) stable professional income regardless of the form of payment, (f) reduced individual overhead, (g) rural attraction for the trained men of the city.

How establish such clinic-centers? If our lawmakers must do something besides finding us collectively guilty as a trade organization, how about providing some good workshops? Rather than trying to devise some broad expensive plan and attempting to fit it like a poultice to the whole country, they might better vote the funds as grants-in-aid, leaving it to the state, county, and community to share the costs. Each center would be fitted to local needs as determined by the local profession and laity consulting together.

The communities of any average county could fi-

(Continued on page xviii)

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(Continued from page xv)

nance the creation of such centers as they have the local fire company once they are "sold" on the necessity by the county medical society. Such a program can be visiualized as setting the foundation stones, the family doctors, in place, over which the four corners of our new structure would rise automatically.

Under our developing defense program, the need grows more apparent. Every worker must produce. The older physicians left in civilian practice must do more work, faster. Our economy may go into a serious tailspin after the war. Then these centers would prove their value still more forcibly. The predicitions of H. G. Wells have proven uncannily accurate. In The Shape of Things to Come he foresees very lean times for our nation in the nineteen-fifties. It is possible that we may be forced to return to the pioneer custom of making each community a self-contained unit of the state.

Thomas Mann in The Coming Victory of Democracy presents his brief to prove that democracy will win. God grant that he is right. But a democracy may become bankrupt. Then what?

When the medical history of our times is written, may it not be said of us, like certain nations in contemporary history, that, in our own defense against centralization of power, it was again a case of too little and too late.

SUMMARY

The majority of our people, in rural areas, are in need of better care, better distributed.

The local clinic-center provides a sane solution, compromising between our present archaic system and government health insurance.

The latter is threatened because the many experiments tried stress the matter of costs only. The politician feels that he can "go us" one better in financing any public service, even medicine.

With the apparent cheapening of human life by accidents and warfare, we must be more vitally concerned in conserving our human resources.

We submit that there exists a challenge to organized medicine to advocate and work for such clinic-centers.

Come what may for nations and forms of government, better medical care, through the family doctor, must and shall carry on.

M. L. R.

*Dr. Malcolm L. Raymond, of Indiana County, author of this editorial, has devoted years of study not only to the prevention of illness and the amelioration of human suffering but to the protection of the health of the people against the threats of political centralization.

Reprinted from The Pennsylvania Medical Journal, May, 1942.

Wisdom Teeth and Wisdom

"There is no relationship between intelligence and the presence or absence of wisdom teeth," Hygeia, The Health Magazine declares in a recent issue. "Apparently the notion that such a relationship exists is based on the fact that the wisdom teeth generally come into place in the jaw at the age when mental powers are fairly well developed."

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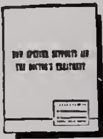

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The Acute Nasal Infection*

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Treatment of the acute nasal infection is undergoing constant change at the present time; improved methods are being adopted from time to time to conform with our ever increasing knowledge of nasal physiology and pathology.

Modern rhinology based on these newer concepts is of comparatively recent development. Its origin may well be traced to what has been so aptly termed by Proetz as the "rediscovery of the cilia." This event took place in the 1920's and along with it came the general realization of the important role played by the muco-ciliary stream in the defense of the nose against invading microorganisms.

One of the first investigators of cilia in mammals was W. Sharpley(1) of London, who studied and recorded several of their outstanding characteristics. He noticed particularly their active lashing stroke with recovery, their vitality after the death of the animal, the effects of drugs on their action, and the fact that they have a definite direction of sweeping toward the ostium of sinuses, the naso-pharynx in the nose, and the larynx in the tracheobronchial tree. Sharpey's observations were recorded one hundred and six years ago. Had his work been followed up by others at the time, rhinology would now no doubt be far in advance of its present status, occupying a highly enviable position in the field of medicine. This monumental contribution was, however, followed by a long period of quiescence, interspersed only by an occasional observation of minor importance.

In 1895 St. Clair Thomson and Professor Hewlitt(2) produced the startling information that the normal nasal chambers are comparatively free of bacteria. This they found to be due to the propulsive action of the cilia and the inhibitory action of a mucus film which ensnared the organisms, carrying them onto the nasopharynx, Fig. 1. Rhinology again failed to realize the importance of the cilia and until their "rediscovery" has ignored completely this very able defense mechanism of the nose and sinuses.

Alden(3) at the 1941 meeting of the Academy of Ophthalmology and Otolaryngology stated that "prior to the last decade many of the intranasal therapeutic procedures in common usage were actually monkey wrenches in the cogwheel's of nature's own effective methods of getting rid of infection."

THE COMMON COLD

At the 1935 meeting of the American Medical Association, William J. Kerr(4), speaking before the Medical Section, ended his address with this statement: "Since it is apparent that no rational means are available to prevent or treat the common cold on the basis of the hypothesis of infectious origin, isn't it timely to go back to fundamentals and start anew?"

ETIOLOGIC FACTORS

It is generally accepted at the present time, that the microorganisms usually associated with diseases of the upper respiratory tract have nothing whatever to do with the onset of an attack. They are secondary invaders only, coming on after the way has been paved by some other influence. The early invader is thought to be a filtrable virus which confines its activities to the initial stages of the disease. Such an agent has been described by Dochez and others(5), in this country and abroad. It is non-visible, non-culturable in ordinary media, and does not respond to antiseptics as do the known pathogenic organisms, yet it may be transmitted to human subjects, to chimpanzees and to ferrets. Aside from this elusive virus, which is no doubt the activating agent, other factors assist in the development of a cold.

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*Read before the regular meeting of the Omaha-Douglas County Medical Society, Omaha, December 9, 1941.

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Kerr feels that a most important factor is the individual's failure to adjust himself to sudden changes of temperature. Other items are physical fatigue, gastrointestinal disturbances, lack of sleep, indulgence in excesses of all types, worries and fears. Spiesman(6) regards anxiety neurosis a highly important predisposing factor.

Sewall(7) feels that chronic sinusitis is the chief endemic focus from which develops the infection called the common cold. An attack is perpetuated in this manner: "The common pus-forming germs are the direct cause. They lie in the mucosa of the chronically diseased sinus and become active with the lapse of the individual's immunity during a state of lowered resistance. This activity is associated with the production of a virus that not only promotes the virulence of the sinus infection but, discharged as a secretion from the sinus, activates the same type of bacteria lying in a saprophytic state on the mucous membrane of that same person. The result is the common cold engrafted on a chronic sinusitis." The cold may be spread, according to Sewall's theory, "when the virus secreted as nasal discharge activates the same type of pus germs lying in a saphrophytic state in the nose and throat of another person. Thus the vicious circle of the common cold appears never ending until such time as the endemic reservoir in the chronic sinus may be rendered innocuous or removed."

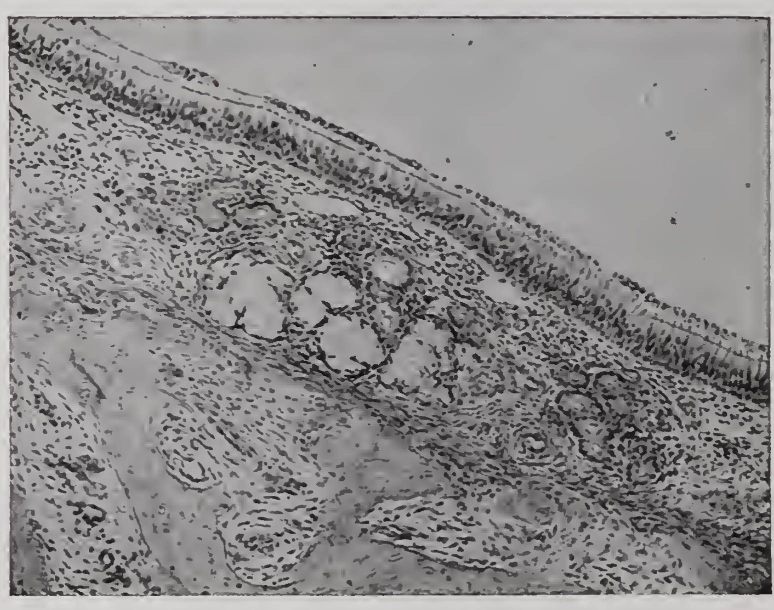

Fig. 1. Photomicrograph of mucosa from ethmoid infundibulum showing mucociliary stream with exudate. (X 80.) A—Exudate. B—Ciliary border. C—Psuedo-stratified columnar epithelium. D—Basement membrane. E—Mucous glands. F—Bone.

Taylor and Dyrenforth(8) contend that the human organism must main a constant average temperature of 98.6 F. (37° C.), for any considerable degree of deviation will result in morbid changes. The extent of these changes was determined by a series of experiments, wherein it was shown that chilling, unassociated with compensatory muscular activity, leads to (a) peripheral vasoconstriction with attendant stasis and anoxemia; (b) lowered leukocyte count, both total and polymorphonuclear; and (c) impairment of the phagocytic capabilities of the fixed tissue cells including the nasal mucous membranes. They determined that one of the immediate results of these changes was a predisposition to infections of the upper respiratory tract, the paranasal sinuses, the eustachian tubes and the middle ear.

Whatever the cause of the initial invasion we know that associated with it are marked vasomotor changes within the nose. Spiesman(9) has shown that following a peripheral exposure to cold there is an immediate drop in the intranasal temperature with a noticeable ischemia of the nasal mucosa. If the individual is in a state of health, there is an almost immediate return to normal. If, however, he is below par, the effects of the chilling may remain for hours. Associated with the ischemia is a diminution of nasal secretion; the membrane lining of the nose becomes dry and the cilia are slowed down or paralyzed. The protective film of mucous is gone, at least in spots, and the way is paved for an acute infection.

The incidence of nasal infections and the weather is being given consideration at the present time. Every physiologic adjustment that is induced by weather alteration is apt to find reflection in any region of the body that is inadequate. This expresses itself either in unusual symptomatology, in change of function, or in actual lesions in the various organs of the body-factors that can be measured. Not only can the stimulus (i. e. the weather) be measured accurately, but it is possible to measure the effect of that particular stimulus upon the human being, interpreting the effect in terms of the clinical, biochemical and vasomotor changes that are produced in the human being. In his monumental work, "The Patient and the Weather," Petersen(10) describes the vasomotor and biochemical changes that are induced in the population when a "cold front" or polar air mass passes over a population group.

Recent investigations by Sargent(11) concerning the common cold and the weekly and seasonal trends of upper respiratory infections in a group of 2,000 students indicate that in normal young men observed from day to day under normal conditions of activity and subject to the same meteorologic conditions, the initiation of a "cold" or "sore throat" is always seen to be preceded by an episode involving a fall in daily atmospheric temperature. The first stage of infection from the mucous membranes includes not only the presence of a suitable virus but the coincident biologic phase that makes penetration possible.

On the basis of considerable study of coryza in animals, Swindle(12) came to the conclusion that the common cold or its equivalent in animals is due primarily to vasomotor changes which cause an increase in the brain volume. This occurs when a portion of the body has been chilled and it results in a mashing of the intracranial plexuses of the ethmoidal arteries to the extent that agglutination of erythrocytes or even the coagulation of the blood occurs. The massive infarction in the upper straits may be severe if the infarct becomes infected.

The circulating blood later carries minute fragments of the coagulum to other parts of the nasal lining. Swindle determined that in certain animals not subject to coryza, such as the bear, the larger vessels of the ethmoid plexus are imbedded in bone instead of being free in the cranial cavity as in other mammals. For this reason no pressure on the vessels takes place and there is no narrowing of the lumens with its resultant agglutination.

PATHOLOGY

The early symptoms of a cold are dryness of the nose and throat, chilliness and sneezing due to a stasis of the mucus stream. Should the process continue, symptoms of toxicity follow: malaise, headache, sore spots in the throat, cough and fever. The tissues of the nose, at first dry, become engorged and there is an outpouring of a thin water secretion. The openings to the sinuses become blocked by the general swelling of the lining membrane and the structures about the opening. Further stasis occurs owing to lack of nasal and sinus ventilation.

Just how the virus of the common cold gains entrance to nasal mucosa is purely conjectural. Some investigators think it passes through the ducts of the goblet cells and mucus secreting glands affecting the nature of the secretion. Others think that the virus confines its activities to the ciliated cells. The virus cannot be isolated for study, and at the onset of a cold the nose is free of all culturable organisms.

Quite a common occurrence is a slight cold with recovery after one or two days. This, we may assume, is the situation wherein a cure takes place before the secondary invaders have gained a foothold. Cases of this type are reported occasionally by individuals who have been vaccinated against the ordinary pathogenic bacteria of the upper respiratory tract. Walsh(13) felt that many of the slight colds reported following the use of the nasal spray vaccine were due to the action of the initial invader only, an immunity having been established against the known bacteria. Up to the present time no antivirus has been developed which will combat the initial invader of influenza and the common cold.

The changes observed in the nasal and sinus mucosa are similar to those changes which take place in soft tissues elsewhere in the body. They consist, in the early stages, of hyperemia and exudation through the dilated capillary walls. The exudate consists of serum, fibrin and polymorphonuclear leucocytes. After 12 to 14 hours, lymphocytes and plasma cells are added to the exudate and subsequently, as shown by Larsell and Fenton(14), histiocytes begin to proliferate Fig. 2. At this time, the epithelium undergoes a loosening and the surface cells are lost by the second or third day and in an examination of the secretions at this time these cells are found(15).

The underlying stroma of the nasal mucosa during the acute invasion is edematous and infiltrated with cells, most of which are neutrophilic leucocytes. The blood vessels in this stage are dilated. Later the edema begins to subside but the cellular infiltration and proliferation increase. As the process of repair sets in, there is a proliferation of the surface epithelium in which process the basal cells appear to play a dominant role. In this final healing stage the surface cells recover their columnar structure.

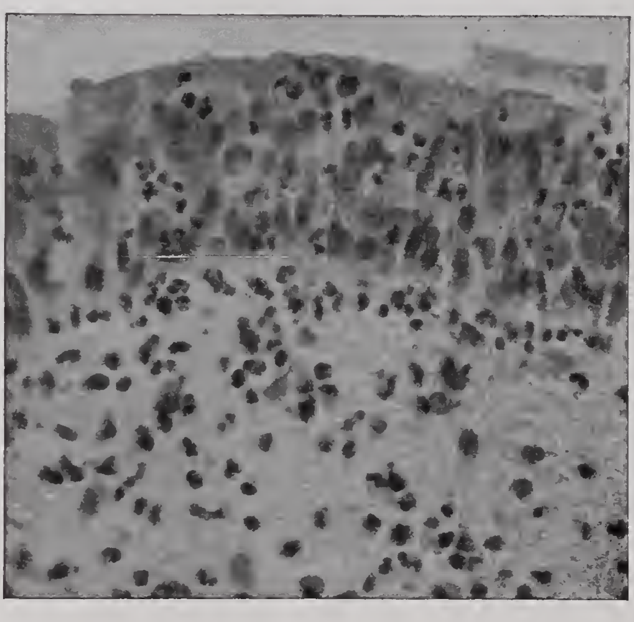

Fig. 2. Acute inflammation of the mucosa of the maxillary sinus. (X 450). A—Polymorphonuclear leucocytes. B—Lymphocytes. C—Histiocytes.

Francis(16) has observed that attacks of epidemic influenza cause a similar destruction to the superficial layers of the nasal mucosa. This is pronounced by the second day and repair starts to take place by the seventh or eighth day. This is not complete until the fourth or sixth week when the ciliated cells become entirely replaced. The changes which occur in the tissue by such an infection are, according to Francis, significant in determining tissue response to subsequent exposure. The mucosa shows evidence of increased resistance with each infection; it suffers less damage and is restored to normal more rapidly than during the preceding attack.

In contradistinction to the changes in the nasal mucosa, the epithelium of the sinuses shows marked goblet cell activity, Fig. 3. The edema during the early stages may be so pronounced as to produce polypoid masses. These disappear, however, as the inflammation subsides.

As microorganisms break through the mucociliary stream secondary defense is encountered in the submucosal stroma. Here phagocytic elements from the blood and fixed tissues are mobilized against the invader. The nasal membranes are rich in lymphatics and drain into the deep cervical and pharyngeal glands. In severe infections swelling of these glands may lead to stiffness and tenderness of the neck muscles and even to suppuration. Involvement of the sinuses, the ears, and the lower air passages may occur as a result of an extension of the infection produced by the known pathogenic bacteria. These organisms are also responsible for the long standing colds and for the change from an acute to a chronic stage.

PHYSIOLOGIC CONSIDERATIONS

Most of the recent research has been directed toward a more complete understanding of muco-ciliary activity and nasal ventilation. A tireless worker in this field is Arthur Proetz(17) of St. Louis, who is in a large way responsible for the awakened interest in nasal physiology.

Important also is the work of Hilding(18), who has traced the course of the mucus streams in the nose and sinuses. He calls attention to the fact that normally the mucus film is in constant motion toward the nasopharynx and is continuous with the film which covers the pharynx and passes down the esophagus into the stomach. Foreign material picked up in the nose starts on its way and if not ejected enroute will eventually enter the stomach.

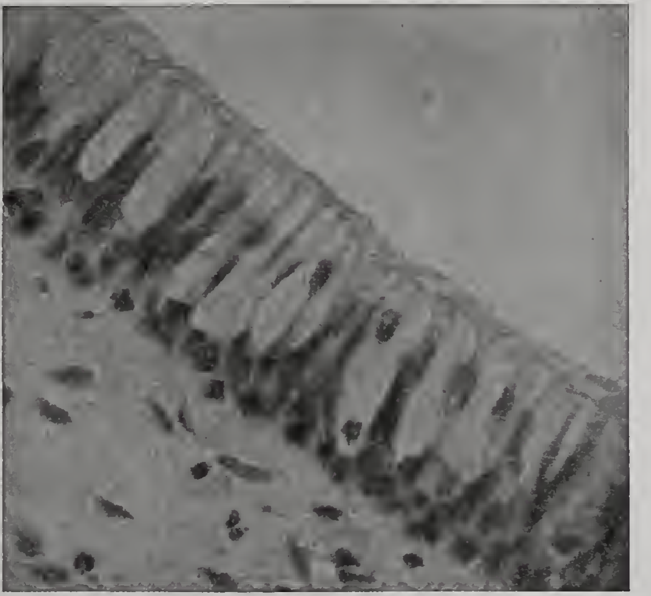

Fig. 3. Maxillary sinus mucosa showing globlet cell formation. (X 650).

Mucus is secreted into the nose from two sources, according to Leasure(19). Simple goblet cells on the mucosal surface, Fig. 3, and the branched glands in the tunica propria not only secret mucus but serum. These glands receive vasodilator, vasoconstrictor and secretory fibers from the autonomic nervous system.

Lucas and Douglass(20) found the mucous film to be made up of two layers, an outer mucinous, viscous layer which contacts the tips of the cilia and an underlying, more watery layer in which the cilia work.

THE CILIA

According to Negus(21) of England, cilia work normally in a medium which contains a variety of salts in combination, all of them being necessary. Early rhinitis cases vary in reaction from neutral to alkaline. Normal mucus has reaction varying from pH 6.6 to 7.4. Cilia beat vigorously in an alkaline solution of pH 8.5 and slow down in a medium of pH 6.4 or less, although Proetz has observed their action in sinuses containing pus. Linton(22) thinks paralysis of the cilia is produced by changes in the hydrogen ion concentration rather than the toxicity in the presence of bacteria. He tested ciliary activity in a medium of pH 5.0. The beat stopped in one to two minutes to be continued after the addition of NAOH sufficient to raise the pH to 7.4.

Charlotte Haywood(23) thinks the length of time the cilia continue to beat depends on the pH of the solution, but to a greater extent on its CO_2 tension.

Fabricant(24) noted that nasal secretions, when collected and studied away from the normal milieu of the nose, were susceptible to changes in pH on almost instant exposure to air. He used a glass electrode and was able to study the pH of the nasal secretions in situ.

His studies, the results of which he reported in 1940 and 1941, have brought to light many interesting and valuable characteristics of the nasal secretions. He has established these facts: the pH of nasal secretions in situ is rhythmical in its fluctuations describing a series of high and low points. These range between 5.5 to 6.5 in a clinically healthy nose. The pH of nasal secretions in situ during acute rhinitis, acute rhino-sinusitis and the more active stages of allergic rhinitis is alkaline. It is generally accepted that therapeutic management of the acute rhinitis include bed rest, adequate sleep and the judicious administration of external heat for the relief of sinus pain. Each of these measures produces but a single uniform pH phenomenon—acidity.

Buhrmester(25) found the normal mucin content of nasal mucus to average 1.31 per cent. When secretion increases, as it does in a beginning cold, the mucin content drops, which affects the viscosity and allows virulent bacteria to penetrate the mucosa. Linton(26) reports that death was caused in 17 of 18 animals by such an invasion and he thinks the invasion was successful, due to the increased hydration of the nasal secretion which followed the innoculation.

The nasal secretions in the early stage, although profuse, are lacking in antiseptic quality. This, according to the investigations of Hilding(27), is due to the diminution of lysozyme, a ferment which is normally present in the nasal secretion.

Francis(16) feels that some substance in the nasal secretions aside from lysozyme accounts for our resistance to virus infection.

He tested the secretions collected from 48 individuals and found them to be effective in 6 instances in inactiviting the virus of epidemic influenza. In 20 they were moderately effective, in 11 others only slightly so and in the remaining 11 entirely ineffective.

His investigation indicated that the inactivating agent is an antibody of the physiological, natural type and bears some relationship to the circulating antibodies.

Considerable work has been done to determine the effect of nasal obstruction on nasal physiology. In the course of his experiments Hilding(18) blocked off one side of a rabbit's nose by suturing the anterior naris. After three weeks, examination revealed considerable damage to the cilia not only on the obstructed side but on the open side as well. This is in line with the work of Lucas and Douglass(28), who found that the cilia beat much more vigorously along the protected areas of the floor and the under surface of the inferior turbinate than along the anterior surface of the middle turbinate, where they were constantly exposed to the blasts of inspired air. It is also known that the cilia on the anterior surface of the turbinates are practically inactive.

The importance of nasal ventilation on sinus drainage was shown by McMurray(29). He filled both antra of a human subject with lipiodol and blocked off one naris. X-rays at intervals showed the oil unmoved for seventeen hours on the occluded side, while on the open side oil had passed out of the ostium and reached the floor of the nose in five hours. Negative pressure caused by inspiration is shown by this experiment to be of vast importance in the evacuation of heavy material in the sinuses. This idea is not new. Hajek(30), some years ago, said that the narrow and deep infundibulum had an effect similar to that of a suction tube upon the pus discharging from the antrum. Yankauer(31) also thought that inspiration exerted a suction action on the sinuses, the return of the fluid being prevented by a valve-like action of the hiatus semilunaris. We may glean from these observations that the conformation of the hiatus semilunaris and infundibulum is the essential factor in the production of negative pressure in the sinuses draining into this area, and this fact should discourage indiscrimnate operations in the middle nasal meatus which might destroy that conformation.

Viability—The extreme viability of the nasal epithelium has always been a constant source of surprise to investigators. Sharpey(32), over hundred years ago, observed active cilia in the gullet of a turtle fifteen days after its death, while the body was in a state of putrefaction. This may be explained on a philogenetic basis, the ciliated membrane being an ancient structure biologically. Heine(33) has shown that the cilia are unaffected by large doses of radium and x-ray although the substructures show marked changes.

Response to Drugs—Ciliary response to the action of drugs has been thoroughly covered by Lierle and Moore(34), Luongo(35) and others. The result of their work on the drugs in common use reveals the unfortunate state from which we hope nasal therapy is emerging.

1. Water, tap or distilled, promptly stops all ciliary action. When sodium chloride is added to make a normal saline solution the action of the cilia is restored. Some have found the rate of action to be accelerated.

2. Oils applied to the membrane lie stationary as a heavy blanket, causing a definite interference with the normal ciliary action.

They are unsuitable as vehicles because, as Walsh and Cannon state, the drugs dissolved in them do not penetrate the mucus blanket to reach the mucosa. Oils are also dangerous, as shown by these authors who reported three cases of lipoid pneumonia which resulted from intranasal application of oil. Experimentally, Walsh and Cannon were able to produce many serious conditions in the lower respiratory tract of rabbits by the intranasal instillation of oil. Novak(36) also mentions the dangers of use of oil, but states that the vegetable oils containing less free fatty acid are less hazardous than the mineral or animal oils.

3. Mild silver proteins, argyrol and neo-silvol are colloids incompatible with sodium chloride. They are applied in aqeous solution, which is in itself detrimental. All observers report the precipitation of the drug as it contacts the mucosa. Motion of the cilia was retarded, although recovery was good following the application of normal saline. Edema and fragmentation of epithelium has been observed after a prolonged contact of 10 per cent argyrol with the membrane lining of the frontal sinus.

Fabricant(24) tested the pH of the silver preparations in common use and found most of them highly alkaline and consequently irritating to the nasal mucous membrane. Their use is further discouraged by the innumerable cases of argyria which have followed their continued application.

Fabricant suggests that every nasal vaso-constrictor prescribed should satisfy two basic physiological requirements: (1) the restoration and maintenance of normal ciliary activity, and (2) all preparations used intranasally should have a slightly acid pH value between 5.5 and 6.5.

4. All observers found that silver nitrate, 0.5 per cent destroys the cilia.

5. Cocaine solutions stronger than 2.5 per cent paralyze the action; less than that have no effect other than shrinkage and blanching of the surface.

6. Epinephrine, 1:1000, the preparation in common use, causes an increase in action which lasts for one hour.

7. Ephedrine, 0.5 per cent to 1 per cent, in normal saline produces no change, the mucosa functioning normally throughout the application. A 3 per cent solution was thought by some to increase activity.

8. Camphor, thymol, eucalyptol, menthol, zinc sulphate, merthiolate 1:10,000, mercurochrome 2 per cent all cause a decrease in the rate of motility, although recovery was good in most instances. Thymol and mercurochrome, however, had a lasting depressing action.

Following intravenous administration, these effects were noted by Luongo:

9. Morphine caused initial decrease in action, followed by restoration. Codeine, slight retardation.

10. Sodium amytal and scopolamine had very little effect.

11. Atropin caused drying and cessation of ciliary action, which fact contraindicates the use of a preparation called "Rhinitis Tablets."

12. Benzedrine as an inhalent has been found by E. M. Boyd(37) to have little effect on the cilia. Its use is discouraged for although it relieves nasal congestion it causes an immediate elevation in the pH of the nasal secretions which tends to prolong the infection.

Luongo(6) also found that drying air caused cessation of motion, moist air very little inhibition and that cooling the cilia retards their action. Bathing in normal saline always restored slowed down cilia and increased the rate of action.

TREATMENT

The results of the various experiments herewith enumerated leave the rhinologist very little with which to work. Aside from the fact that he may remove bacteria from sinuses by lavage he must practically ignore their presence. The oily sprays which have heretofore been regarded as soothing agents to the red, swollen membrane should be used sparingly.

In the general management of the acute upper respiratory infections all writers are agreed that patients do better when put to bed in a warm well moistened room. Bock(38) reported on the care of 1,667 cases of college students over a three year period and found that simple common sense treatment hastened recovery and prevented complications. Salicylates and codeine were used for comfort. Energetic local treatment was avoided as were laxatives.

Powell(39) also felt that local treatment was not efficacious and could actually be harmful. He thought that the congestion of the upper respiratory tract was purposeful, as were the increased leukocyte count and elevated temperatures.

Jarvis(40) felt that oxygen metabolism should be considered rather than infection in outlining a plan for treatment of the common cold. His therapeutic list included insulin in three-unit doses which he gave daily, especially to patients over 50 years old. For those between 20 to 50, he prescribed 5 to 10 minims of dilute hydrochloric acid per day and children were given small doses of iodine (Amend's solution) 1 to 3 drops. These, he felt, along with a low carbohydrate diet were very effective in preventing and terminating acute colds.

Goodyear(41) recommended the daily use of common table salt in teaspoonful doses rather than soda, alkaline drinks and the juice of citrus fruits. It is now generally realized that bacteria require an alkaline medium for growth and that nasal and body secretions offer greater resistance when slightly acid.

Vitamin Therapy—Very few articles have appeared which credit vitamin therapy as being of much aid in the treatment of nasal infections. Extensive literature gives evidence of the wide use of vitamins in other fields of medicine, and innumerable experiments on animals provide a rationale for their use in nasal and sinus infections.

It was noted by King(42) that injections of toxins may cause a marked depletion of vitamin C in tissues and also that animals whose tissues are depleted of their reserve of vitamin C are subject to injury by injections of toxins.

I have found vitamin C to be a valuable aid in treating patients suffering from rhinosinusitis in its early stage. It is given in doses of 1 gram daily.

Foreign Protein Therapy—Foreign protein, given in daily injections, is thought by many rhinologists to be a beneficial therapeutic agent. Larsell and Fenton(43), a few years ago, determined the efficacy of this agent through experimentation on animals. They found that administration of foreign protein was followed by satisfactory reparative cellular changes.

Mithoefer(44) injected foreign protein daily and advised rest and other mild forms of local and general therapy in conjunction. Sourdille and Loue(45) felt that injections of foreign protein contributed toward relief of pain in the acute stages of rhinosinusitis. Grove(46) and Richards(47) have each expressed themselves as being favorable to the use of foreign protein in acute infections.

Sulfatherapy — Sulfonamide drugs have proven of little value in the treatment of head colds and sinus disease except when serious complications arise. Turnbull(48) used a 5 per cent solution of sodium sulfathiazole as a nasal spray and also injected it into the antrum. By either measure a preparation with a pH of over 10 must be regarded as an irritant to the nasal and sinus mucosa. Fletcher(49) recently reported a case in which the patient had been treated with a 10 per cent solution of sodium sulfathiazole, with the result that there was complete destruction of the entire mucosal lining of the sinus. He discourages the use of any of the sodium salts of the sulfanilamide group because of their extreme alkalinity.

Relief from annoying symptoms is the duty of the physician to his patient if this may be accomplished without interfering with the cure of the case. Thermotherapy in the form of infra-red rays aids in the relief of the pain associated with nasal and sinus congestion. Applied over the face for 20 minutes they are also of value by lowering the pH of the nasal secretions which renders them more germicidal. Decongestants carefully applied intranasally afford considerable temporary relief from the blocked nose of the acute cold. It is felt by most rhinologists that their use is justified even though the progress of the disease is somewhat retarded thereby. Ephedrine combined with sodium amytal may be taken internally and, according to Gowen and Nedzel(50), affords considerable relief in the early stages of an acute cold. Locally, ephedrine, 0 5 per cent. in normal saline solution may be used effectively in all stages of a nasal infection. Early, while the nose and throat are in a dry state, this solution prevents stasis by supplying the necessary moist medium for ciliary action and by its flushing action on accumulated microorganisms and secretions. Later this function is taken over by the excessive watery secretion supplied by the nose itself. Then, the ephedrine-saline solution is effective in minimizing the engorgement which is so apt to block ventilation of the sinuses and the breathing passages.

The most effective means of administering ephedrine-saline solution is by instillation in the head-low Proetz position, or the side posture position of Parkinson(51). This latter position places the patient's nasal cavities in the most advantageous position to receive the maximum benefit from the treatment. The patient lies on a couch or table on the right side with his arm under him and a pillow under his shoulder. A dropperful of solution instilled in the right nares flows to the upper straits of the nose, where it is allowed to remain for three or four minutes. The shrinkage action of the ephedrine should soon act on the middle turbinate sufficiently to permit the solution to flow into the middle meatus. Here, further shrinkage causes further penetration and unless the congestion is extreme the solution should reach and immerse the various sinus ostia opening into this area. The openings reached by this treatment are those draining the maxillary, the frontal and the anterior ethmoidal sinuses. These cavites comprise the anterior group and are those most likely to be involved in the acute process. Gentle blowing removes the solution and the procedure is repeated on the left side.

In view of the fact that the solution is non-irritating, that its continued use is in no way detrimental to ciliary action, the procedure may be repeated at intervals if the comfort of the patient warrants it. This form of treatment should not be expected to cure or prevent a nasal infection and there is always the possibility of carrying the disease to the sinuses. The same danger, a spread of infection, characterizes all forms of nasal therapy and is no more likely with the instillation of ephedrine-saline solution than with the others. The relief afforded the patient with this form of treatment is usually instantaneous and lasting, and this fact alone more than justifies its use.

SUMMARY AND CONCLUSIONS

In the early stages of an attack of acute nasal infection the ideal treatment includes rest in bed in a warm, moist room. The symptoms should be alleviated and measures adopted which will tend to prevent complications and which may promote an early termination of the disease.

Vasocontrictors are commonly prescribed for all stages of acute rhinitis.

Those selected for this purpose should be non-detrimental to ciliary activity and should have a pH between 5.5 and 6.5. A .05 per cent solution of ephedrine in normal saline fulfills these requirements.

It is best administered by instillation with the patient in a head-low position.

Tampons of mild silver protein having pH of over 8 are irritating to the nasal mucosa and have no place in the treatment of patients suffering from acute nasal infections.

Infra-red rays and injections of foreign protein and vitamin C in large quantities have been proved to be beneficial in treating patients suffering from acute rhinosinusitis in its early stage.

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THE OMAHA MID-WEST CLINICAL SOCIETY

The Omaha Mid-West Clinical Society will this year hold its tenth annual assembly. As usual the sessions will be held in Hotel Paxton—the dates October 26th to 30th, inclusive. The 1942 meeting, however, will be held under circumstances differing from those of past years, for since the assembly of 1941 "all out" war has evulsed Old Mother Earth. Because of this there has been question as to whether it would be advisable to attempt a meeting this year. Many conferences and much outside counsel finally decided the issue. There were good reasons why the Mid-West should forego the 1942 meeting, but there were better reasons for carrying on.

Many physicians in the Missouri Valley territory have answered their country's call to service. Many more find themselves belabored because of the extra load they must carry since their colleagues have departed and those on medical school faculties, because of the accelerated program, find it necessary to put in many extra hours of teaching.

Guest speakers beset by the same problems have not found it too easy to accept without sacrifice, invitations to participate in postgraduate courses. Members of the Mid-West, in preparing addresses and scientific exhibits, find themselves confronted with the same extra load as all other practitioners.

Technical exhibitors have been seriously tried in attempting attendance at this year's meeting because of the lack of personnel, equipment and materials so necessary to a worthwhile exhibit.

However, with all these factors to combat, it is believed the attendance at this year's sessions will surpass that of all others, physicians recognizing that this type of meeting has much to offer at minimum expense. At no time has there been greater need for opportunities such as this meeting offers, inasmuch as physicians on the home front never had a greater responsibility to their patients than now. Physicians appreciating the gravity of such responsibilities will see to it that they are not left behind in the rutted trough through lack of contact with progressive medicine.

The coming five-day meeting will offer much that is new. Guests and members participating in the program will discuss many topics pertinent to the care of civilians and the military. The subjects chosen for round table discussion promise much. Scientific and technical exhibits will vie with standards set in previous years.

Members of the Omaha Mid-West feel that all physicians in this territory should have a personal interest in the success of this year's meeting. All that is necessary to assure its success is your presence during the week's sessions.

The following guest speakers will take on the lion's share of giving their all in making the 1942 sessions profitable to all those in attendance.

DERMATOLOGY—Francis E. Senear, Chicago.
EYE, EAR, NOSE AND THROAT—Samuel Iglauer, Cincinnati.
GYNECOLOGY AND OBSTETRICS—William J. Dieckman, Chicago.
MEDICINE—Russell L. Haden, Cleveland; Irvine H. Page, Indianapolis; Herman H. Riecker, Ann Arbor; Elmer L. Sevringhaus, Madison.
NEUROLOGY—Temple Fay, Philadelphia.
ORTHOPEDIC SURGERY—Philip Wilson, New York City.
PEDIATRICS—Arild E. Hansen, Minneapolis.
RADIOLOGY—Harry M. Weber, Rochester, Minn.
SURGERY—Frederic W. Bancroft, New York City; Frank H. Lahey, Boston.

Further details will be found in the September and October issues of the Journal of the Nebraska State Medical Association. You should have your copy of the official program by October 10th.

Plan ahead so that when October 26th rolls around you will find yourself enroute to the meeting.

The dates—October 26th, 27th, 28th, 29th, 30th.

Procurement and Assignment Service*

COLONEL S. F. SEELEY

I want to express to you my gratitude for this privilege and also express my own personal delight in being able to come back to Nebraska; having left here some nineteen years ago to go to medical college in Minnesota and having been in the Regular Army medical service for fifteen years.

I feel that there are several things that you want to know about the war program. I feel that it is a rare privilege to be able to come directly from the offices of those in Washington who are having to manage this large program. I don't want to give anything formal to you; I want to discuss with you what has happened in Procurement and Assignment since Pearl Harbor.

I was here shortly after Pearl Harbor and at that time we discussed with the leaders of your State the developments that had occurred long before Pearl Harbor.

I would like to go back for a moment to stress the far-sightedness of the Surgeons General of the Army and the Navy in mobilizing the medical, dental and veterinary man power of this nation.

Two years ago this spring the Surgeon General of the Army, General Magee, and the Surgeon General of the Navy, Admiral McIntyre, sent a representative to the American Medical Association, meeting in New York City, and asked that the Association take upon itself the task of making a registration, sending out questionnaires, of all the physicians in the United States. You all know the results of that program. You know how highly successful the canvassing of all the physicians of this country was and that Dr. Leland of the American Medical Association was given the very difficult task of coding all this information, putting it on punch cards and making it available to the Surgeons General.

The House of Delegates of the American Medical Association saw at that time the necessity of carrying out two other procedures, however. The history of the World War indicated that there was a great hazard created by the indiscriminate dislocation of those people who should have remained at home and furthermore, that in many cases the man who went in and who was assigned to a job as a specialist was a round peg in a square hole.

The American Medical Association therefore set up a Committee on Medical Preparedness, and Dr. Fouts and Dr. Conrad of your state and many others served on that committee. This Committee, by the time of the onset of the development of the Procurement and Assignment Service, had surveyed 2,008 out of 3,072 counties of the United States and had set aside an estimate of the number of physicians who were absolutely essential in the care of the civil and industrial populations, thereby creating an estimate of the number of physicians who might be spared for war service in other capacities.

You may be interested in knowing that out of the first 159,000 registration blanks that were returned to the American Medical Association, some eighteen to twenty months ago, one-third of all those physicians said they were specialists.

During the World War large numbers of officers were sent to cantonments; then when new evacuation, or surgical or other hospital units were set up, a large number of them were allotted over to a new commanding officer who would interview them and assign them.

It was found in many instances that the man who said he was a surgeon actually was not sufficiently equipped to carry on the duties incident to the chief of a large surgical service, and that in many instances the reason he said he was a surgeon was because he hoped the experience he would gain in the war would make a surgeon out of him.

Many of those men had to be relieved and given refresher courses. The sum total of it was that the profession, with the specialists, was not utilized to the maximum extent.

As a result, then, of the survey showing that one-third of all the people in this country said they were specialists, Dr. Leland of the American Medical Association drew out the cards of all men who said they were specialists and they were sent to the National Research Council Committees of the National Academy of Science in Washington. The National Research Council took upon itself the distribution of these cards to the men representing the specialties. The example of Dr. Paullin, President of the American College of Physicians, is an example.

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*Address delivered before the Nebraska State Medical Association, May 7, 1942.

Dr. Paullin wrote some 328 doctors known to him who, in a confidential manner, either made the report themselves or got the advice of deans, teachers, and colleagues, of doctors who said they were specialists in internal medicine and other specialties; these people were graded in grades 1 to 4, grade 1 being the outstanding teacher consultant individual; grade 2 being the man who, without any necessity of further work or refresher courses, could immediately embark upon his duties as a chief of a major service; grade 3 being the man who would make a satisfactory assistant to the chief or a section chief in the medical or surgical service; and grade 4 being the man who, because of the early nature of his training in a graduate capacity or his part time participation in that specialty, would make it wise to utilize him, if possible, in that type of work because the Government would get better service rendered and the man would be happier doing that type of work.

Therefore, the gradation of the specialists rested on what the man said about himself, the recording of the graduate and other experience that he had had in this particular specialty, plus the rating given by the committees of the National Research Council and the additional information to be gained from the fifteen American Boards of medical specialties, this information having been transmitted to Dr. Leland and (since the Procurement and Assignment Service came in) having been transmitted to our organization.

Those, then, were the steps—the registration, the determination of the needs of the nation, and a relative gradation of the men in the specialties done by the American Medical Association at their own expense and through the kindness of the members serving that Association.

The second stage was the development of the Procurement and Assignment Service. In March of 1941 the Committee on Medical Education of the Health and Medical Committee recommended that a central agency be set up in Washington designed to serve as a personnel office for the entire medical, dental and veterinary professions.

The Health and Medical Committee, composed of Dr. Abell of Louisville, Chairman; Surgeon General Magee of the Army; Surgeon General McIntyre of the Navy; Surgeon General Parran of Public Health Service; Dr. A. N. Richards, Chairman of the Committee on Medical Research of OSRD; Dr. Oliver, President of the American Dental Association and now Dr. George C. Baer, Chief of the office of Civilian Defense, was under the Office of Health and Medical Welfare Services set up in Washington in September last by executive order.

When this resolution came back to Health and Medical Committee, out of deference to the work done by the A. M. A., it was carried to the A. M. A. meeting last year. The House of Delegates approved this in principle and passed it back to the Health and Medical Committee with their endorsement.

Mr. McNutt, the Director by executive order of the Office of Defense Health and Welfare Services, took this to the Cabinet; the Cabinet approved it in principle and the President directed that such an office be set up and should it prove necessary that legislation be used to utilize the medical, dental and veterinary professions—that such legislation be anticipated.

We must now go back and review the figures on the voluntary desire of the medical profession to participate in a war program. The medical profession has never been found lacking and the medical profession has never had to be legislated into a war. It has never failed to serve the troops in a highly commendable manner.

Of the first 159,000 cards returned to the American Medical Association 50.3% of all the profession stated that they would be willing to offer their services in case of war. Of those under the age of forty-five, 63% of the single and 48% of the married said they would be willing to serve the armed forces. That was long before Pearl Harbor. In fact, it was long before Congress was voting 203 to 202 to keep up the defense program, and I can assure you that the medical profession has been voting 88 to 0 just like Congress did on December 8th.

Those figures sound very good. There is one thing that's a cinch. Colonel Lull, Chief of Personnel of the Surgeon General's office of the Army, has stated it very nicely. He said that the most bloodthirsty group of doctors in this country are the men from sixty to eighty, and I can verify that. They come to my office; they decline the privilege of riding the elevator, —they walk up the steps and defy me to find them physically unfit for service. You men know just what I mean. They want to serve.

The young men say they want to serve. It is a truism in this country that we have not only more doctors per thousand population but we also have more specialists per thousand doctors.

We know that the early years of a man's life out of medical school are the years that he should utilize in gaining this graduate work. We know that there is a certain degree of reluctance on the part of many of the young men to break up the program they have laid out for themselves, but I can assure you of another thing that we all know: That we have to win this war first and then come back and pick up and carry on with this graduate work as well as to carry on with a lot of other things.

The Selective Service System set up by Congress has provided that every man under the age of forty-five is available for military service and the only exception made was in the case of ministers, theological students and conscientious objectors. There was no provision made that physicians as a whole or dentists or veterinarians should enjoy any particular immunity from that act, and they do not enjoy any immunity from that act.

When a physician's number comes up and he is due to be placed in Class 1-A, he must convince one of the sixty-five hundred local boards in this country that his services are necessary in his community or he cannot be rightly deferred from call to active service. Looking at it from the standpoint of the whole population, there is no more reason why that doctor, if available, should not be drafted as a private than the lawyer or the sanitary engineer or the welder or anyone else who is practicing in one of the essential or non-essential industries.

The Selective Service System has been very, very fair about this. They have, on occasion, drafted physicians. They have, on occasion, drafted dentists and veterinarians, but it is obvious to you all that if, in a local community, a man's number comes up and he can be spared, that since Congress has said that he is available for military service and since Congress has given to each of the sixty-five hundred local boards the autonomous authority to make the decision as to when this man shall go to service, which after all is the final question, these local boards are justified in insisting that that man demonstrate to the board that he is necessary in his present capacity or that he should go in as do the others.

The Health and Medical Committee, long before Procurement and Assignment came on to the horizon, anticipated the need of the reservation of all physicians and dentists and particularly veterinarians, in a professional capacity rather than in the capacity of a man in the ranks, an enlisted man in the infantry or other organizations.

The Selective Service has recognized that the number of physicians, dentists and veterinarians, is not adequate to care for the civil and industrial population and still give to the military forces the number of people they demand in order to care for the troops in a manner in which we all want them to be cared for.

Therefore, some sort of a control mechanism had to be set up in order to, if possible, cause an equitable distribution of the practitioners of medicine and to cause the withdrawal of these people from civil life to be made in an orderly manner.

In the presidential order that set up Procurement and Assignment Service, approved October 30th, we were charged with a dual responsibility: First, the maintenance of data on all physicians, dentists and veterinarians of the United States and the stimulation of the voluntary participation of these people in the war effort on the one hand; on the other hand, the orderly withdrawal of these people so that the hazard to the civil and industrial population would be minimized and that those people who were essential should be kept in their communities as long as the essential nature of their participation in the civil and industrial fields could be justified.

The Selective Service System has played ball, and out of recommendations to the Health and Medical Welfare Committee made to the Secretary of War and the Secretary of the Navy, all pre-medical students who have matriculated in medical colleges and all the four years in medicine as well as all the four years of dental school and the pre-dental students, the four years of veterinary school and the pre-veterinary students, may now go up for examination and receive a Medical Administrative Corps commission in the grade of Second Lieutenant, which will guarantee the completion of their studies for the four-year period and which removes them from the Selective Service System and which, incidentally, will give to the local board a credit for a man having gone through their organization.

In the case of the Navy, the Ensign H. V. P. commission is available in all four years of medicine and a pre-medic who has matriculated and the pre-dental student who has matriculated and during the four years of dental school.

Therefore, one of the aims of Procurement and Assignment and the Health and Medical Welfare Committee has been realized; that is, that we shall guarantee adequate numbers of physicians, dentists and veterinarians coming out of the schools in an orderly fashion, and something has been done to stimulate greater numbers coming out in that 8% more students are now in medical schools than formerly — which has, incidentally, about saturated the physical facilities of the plants to care for those students.

The accelerated program which has gone into effect as a result of the recommendations of the American Association of Medical Colleges is being taken up in practically all the medical colleges.

Therefore, our Procurement side is the guaranteeing not only of adequate numbers coming out of medical and other schools but also the provision that nothing shall be allowed to happen which would lower the standards of medical education in that every medical, dental and veterinarian college has now been surveyed by the Procurement and Assignment Service boards and every dean of every school has been invited to send to the State Chairman of Procurement and Assignment a list of all of the people on his staff and to set aside those who are essential and those who are thus available.

I must emphasize that any man under the age of forty-five is essential only so long as that can be defended before the local induction board that a deferment is only temporary, and that any man under forty-five who is physically able to go into military service should at this time, as well as any other time in the future, anticipate that he probably will have to go and that he should look for a replacement or that the dean should have a man in training or should have an alternate available in case this man must go.

Figures show that approximately 25% of all those who graduate, because of the fact that they are women graduates, non-citizens, or physically unable to pass the Army or Navy examinations, are not acceptable for the armed services. Is it true that only that 25% may continue past twelve months of interneship at this present time? We do not know.

You may be surprised to know that several hundred physicians who had their applications in for a commission withdrew applications and declined to take the oath of office when the Selective Service System lowered the draft age. You would be surprised to know that since Pearl Harbor and because of the emergency enrollment forms that we published in the Journals and which were so magnificently considered and sent back to our office, we have received over 35,000 of those,— that as a result of that, through my office and the office of the Surgeon General and the office of the Air Surgeon, we have sent out 12,000 complete sets of application forms to physicians in this country and to date there are still 5,000 lying on someone's desk that have not reached Washington.

Now, I know what they are thinking. They are thinking, "Well, when the other fellow goes, I am going, too. I have a wife and two children. I am going to wait until all the single men are gone from my community. I am in a little bit of doubt right now as to whether I should go. Procurement and Assignment hasn't told me that now is the time. They said they'd notify us when the need existed."

I am here today to officially notify you as well as the press and every physician in the United States that there is no longer any excuse for the man who is available and who is willing to volunteer his service, for holding back. The War Department and the Navy Department now need 16,000 more physicians before December 31st. We shall have to have 5,000 immediately, for the Army must have them as soon as possible.

With this in mind we wrote a letter to General Hershey for the Directing Board and asked the question, "What is the status of the man with dependents in case of the medical, dental and veterinary fields?"

On April 22nd the following letter was returned:

"This will acknowledge your request concerning the classification of registrants who are qualified for commission as medical officers in the armed forces.

"This headquarters has ruled that a local board, in classifying a medical doctor or dentist, or veterinarian, may take into consideration the pay and allowances which such person would receive in the event he is commissioned in the armed forces. Any claim for deferment on the ground of dependents should therefore take into consideration the amount which the registrant would receive as a commissioned officer."

This last sentence is the whole thing:

"In practically all instances, the pay and allowances of an officer are sufficient to eliminate the question of dependency."

Now that puts it right back where it belongs. I know that the Soldier's and Sailor's Relief Act is not adequate to meet the mortgages, back payments on instruments, rental and all that sort of thing. I realize that some doctors have made a sufficient amount of money so that the pay of a First Lieutenant will probably not pay the income tax, but we also know that only in the case of the medical, dental and veterinary profession and in the case of chaplains does this opportunity exist where a physically and professionally qualified person has the right to expect a commission.

And even in the capacity of a First Lieutenant, the annual pay is $3,152 per annum as compared with $21 a month.

Two weeks ago Sunday the Personnel Division of the Surgeon General's office called to say that General Wharton, G-1 of the War Department, had conceived of, conferred with the Surgeon General and approved of a plan that, for the first time that I know of, has made red tape fade into white. There just won't be any tape left on getting a commission in the medical department.

It might be well to go back a little and explain to you why some of the applications have rested so long in many offices. It used to be that if a man wanted a commission he'd go to the military area and say that he wanted to get a commission. The military area would approve the idea and give him the application blanks and either the military area or the corps area would give him the authority to appear at the nearest Army installation for a physical examination.

The physical examination would have to be reviewed at the hospital by a board of officers and endorsed, first the endorsement of the commanding officer of the hospital to the commanding officer of the post. I don't know yet why the commanding officer of the post wanted to see it.

It was endorsed then to the military area, then to the corps area, then to the office of the Surgeon General, who sent it over to his medical division in the Adjutant General's office to see if the man passed the physical. If the decision was favorable, he reported back to the Surgeon General's that now these papers could be put with the others, if they had caught up with them.

The application forms went from the military area to the corps area and the corps area commander made his recommendations; usually he had a board of officers to act on the individual recommendations and in most cases interview the individual, and these were sent to the Surgeon General.

When the physical examination and the application were put together, the Surgeon General sent them to the Adjutant General, asking that the Adjutant General commission the officer. The latter might find that the man wanted to be a major and they only had a captaincy to offer him. We are a democratic nation, so they had to write to him and say, "We cannot give you a majority; will you take a captaincy?"

The man would write back and say, Yes. Then the Adjutant General decides that they will commission him. He sends out the oath of office and a fingerprint card; the man executes these before a summary court or a notary public, sents them back to the Adjutant General and this now gives the Adjutant General the right to order the man to go into the Army.

Under that old regime and the hysteria of Pearl Harbor, the two were incompatible; hysteria and that sort of delay simply don't mix.

A doctor in Atlantic City got all excited. He said, "I want to get in the Army," so he wired the Surgeon General and said to his wife, "We will close the house and we may be able to get a week in Florida," so they closed the house, rented their equipment, rented their place to another man, went to Florida, and he is still looking for a place for a new location. His applications were turned down. He was found physically disqualified and he is out.

My advice to any man who is making application for a commission: "Keep your shirt on and wait until you get your oath of office and you still have fourteen days to close up."

That was the old regime.

In January a War Department order cut out most of that red tape. In the meantime the War Department, the Navy Department, the United States Public Health Service and all the civil service agencies agreed with the Procurement and Assignment Service that they would not commission a single man for duty in the military or the armed services or the governmental agencies unless that man was certified as available by the Procurement and Assignment Service.

Therefore the Army method took on steam, and it was provided that the application blanks would be sent out immediately from our office to the candidates or from the Surgeon General or the Air Corps if more expedient, and that immediately upon receipt of these papers, the man could make out the application, mail it right back to us or to the Surgeon General; he had authority to take the physical examination in the same letter, and the physical examination was sent by air mail immediately to the office of the Surgeon General for appraisal.

At the same time that the man made application, we started clearance sheets through the Chicago office, first to certify that this man was a doctor, he did graduate from an approved school, etc.; in other words, that he met the specifications laid down by the Surgeon General, and through the State Chairman of Procurement and Assignment a clearance to the effect that the man was available for military service and could be spared from his community.

I am happy to say that as a result of that, as soon as the wheels got well oiled, applications that reached the individual and left the individual's hands on the 9th day of April, went through and the man received his orders from the Adjutant General's office to report for duty in fourteen days and orders were issued on the 19th, so it can be and has been done very rapidly.

As a result, then, of the Wharton plan, the Army is further decentralizing and tomorrow we will institute in this section of the country, in every state west of the Mississippi river, a plan put into effect east of the Mississippi river on April 24th.

The Army has designated a medical officer for each state and has designated a line officer for each state, who is a summary court officer and can therefore give the oath of office. This team will have two clerks, it will have authority for travel, will have its furniture and its stationery. 90% of the offices of the State Chairman for Procurement and Assignment have found adequate room to loan them a place to sit where they will be right next to medical records.

This board of officers has the authority to initiate the application forms, cause the physical examination to be done, and it has the final authority to pass on applications, physical examination, obtain a clearance from our State Chairman right on the spot and can hold up the man's right hand, swear him in, and wire the Surgeon General that night that the man is ready for orders. A. G. O. will send him orders and he has fourteen days in which to go.

Any man, then, under forty-five, can be given an outright appointment in the grade of Lieutenant or Captain by these boards on the spot. In rare instances where a man under that age may, because of his exceptional professional standing, in case he is needed in a professional capacity in a large hospital or in case of exceptional military training which would fit him for field duty and who might be capable of discharging the duties of a major, be referred to the Surgeon General's office. That decision is in the hands of the Surgeon General and those papers initiated by the board will be sent to the Surgeon General for final decision.

They didn't open up the door just a little way, but they opened it wide and took off the hinges.

The War Department has now announced that these boards have the authority to initiate application blanks and initiate the physical examination on any physician in his fifty-fourth year or under, but that the final decision on cases from forty-five to fifty-four, inclusive, must be made by the office of the Surgeon General because so few vacancies will occur in that age group that the Surgeon General must decide which men will be taken and to what position they will be assigned.

So what is the advice?

The advice is to immediately contact Dr. Conrad, your State Chairman of Procurement and Assignment, and tell him you want to see the recruiting board as soon as it is out in the State. This recruiting board has orders from Washington that it will not commission a single man who has not been certified as available through Dr. Conrad's office, so that Dr. Conrad, if he knows the name of the individuals who want to get in, will predetermine the availability of these men, and we have sent to him in the past week the forms he will use for clearing these people. A certificate that the man is available will accompany the application forms we send to Washington.

I am not out here to wave the flag or play the band or anything else. I am just here to tell you that the profession has said that it can do this thing on a voluntary basis. The profession has said, "All we want to know is when?"

The answer is now.

And they have said, "All we want is to be told how."

I think I have given you that answer on how you can do it so there is now no longer any excuse. The Army must have 6,000 more doctors by July first if two things are to continue: First, if we are to have any men left over after the twelve months of interneship that have been commissioned in the Army or Navy during the interneship and school years; if any of those men are to be left behind for graduate work they must have at least 6,000 in the Army or they cannot afford to defer calling a single man to duty under orders.

The other thing that awaits at least 6,000 more getting into the Army by July first is the fact that the National Research Council has surveyed every teaching institution in the country, they have determined how many courses can be given, the number of people that can be taught in these courses, the number of days or weeks or months that these courses should be conducted, and the Army now has some 13,000 medical officers, many of whom deserve and should have refresher courses.

It will be necessary to give concentrated courses—particularly in radiological technic of wartime and in tropical medicine for officers for Caribbean and other bases at the Army Medical School, and those who come in, added to those who are already in, must have some concentrated refresher courses. These twenty-five institutions are now prepared to open their doors on July first but the Surgeon General will not be able to send a single man to one of these refresher courses unless you of the profession see fit to give him at least 6,000 more physicians by June 30th.

I know it can be done. I know it is going to be done. I have contacted by telephone many of our State Chairmen in the eastern half of the United States since they were instructed April 24th. They have at hand all the way from fifty to two hundred names of physicians who have contacted them since last Saturday's A. M. A. Journal came out with this announcement in it, and they are predetermining the availability of these people.

Those people may be contacted by the Army recruiting officers' boards and may expect to be commissioned outright.

I think you should have a report on what has happened to the enrollment form and questionnaires. You all know that they are in the mail. I would say that if any man has not received his enrollment form and questionnaire by this time, he should drop a penny postcard in the mail addressed to the National Roster, 916 G Street, asking for his form because if you didn't receive it it is either lost in the mail, you have moved or the addressographing agency which contracted for this job has failed to get it in the mail.

We found in Pennsylvania that a few medical people got dental forms and vice versa, but that will be straightened out and I know you will be proud to know that out of the approximately 275,000 men in these three fields, when I left the office yesterday at noon there were sixty full mail bags representing between 150,000 and 165,000 returns already in the National Roster.

These will be put on the punch cards so that we can find for the Surgeons General any type of individual whom they seek. These punch cards will make it possible that the Surgeon General of the Navy might specify to our office, "I want fifteen orthopedic surgeons, grade 2, between thirty-seven and forty-five, preferably who can speak or translate Spanish, who have had significant travel in the South Pacific and who, if married, don't have over three children."

If he wants to specify the color as white, that their school of graduation shall be one acceptable by the Navy Department, that they shall have served at least one year of a rotating interneship, that if naturalized they shall have been naturalized for a period of ten years, he may do that, too.

All I have to do from my office is to call the Roster on the telephone, dictate the specifications and they push down a button on the machine representing each of the specifications that I have related and they can throw the 186,000 cards in the machine and in six hours have the printed name and address of only those people you wish from the State of Nebraska who meet these specifications.

Everyone in Washington knows and believes that the medical profession is going to fill the specifications and requirements and, as stated by the Surgeons General, they will not ask for any more than they need—and that your safety valve is your Procurement and Assignment Service.

This has been given to the medical profession to do and I think that we all have the right to feel that as a result of the farsightedness of these three professions, we have been able to place into Mr. McNutt's hands, as Chairman of the War Man Power Commission, the first scientifically treated group where we can give to him the entire assets of the medical population of this country. We can tell him exactly what they can do, how many can be spared, and what the division of the spoils will have to be if we are going to win the war.

You should also be justly proud of the fact that the original executive order of the President that set up the War Man Power Commission included the Procurement and Assignment Service as one of the parts of it, and we were immediately transferred to the War Man Power.

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The Treatment of Infantile Paralysis

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(An Appraisal of the Elizabeth Kenny Method)

The advent of the Sister Elizabeth Kenny method of managing infantile paralysis, from the acute stage through convalescence, is perhaps the most epochal contribution to this dreaded disease since its recognition.

This assertion is based on:

1. A personal observation of several days at the University Hospital of the University of Minnesota and the Minneapolis General Hospital, of a group of near end results with this treatment alone, and results of orthodox treatment alone, as well as the combined orthodox and Kenny methods.

2. The personal observation of Sister Kenny and her associates from Australia, at the University of Minnesota, examining and treating these patients.

3. The comments of Doctors Wallace Cole and Miland Knapp who, with Dr. John F. Pohl, are directing and collaborating with Sister Kenny under a grant from the National Foundation for Infantile Paralysis.

4. Lastly, from the study of Sister Kenny's writings, and those of the above mentioned orthopedic surgeons, on this subject.

It is indeed interesting that an Australian nurse from the isolated bush country should display such resourceful initiative when confronted with a number of acute poliomyelitis cases as to develop a technique for the management of such cases that would revolutionize not only the treatment of the disease, but also our modern conception of this disease from a pathological standpoint. Great credit must be given to this forceful woman who came unheralded from a far off continent; who, with only a modest academic background, rode rough-shod through the iron gates of modern scientific medical research and into the halls of one of our greatest medical schools, with personal fortitude and perseverance, forced her ideas and ideals down the throats of the most skeptical of our profession. Merely saying that Sister Kenny is a great woman is putting it mildly. Her history and story has been so well told by herself, and lay periodicals, that I shall not refer further to that phase of this subject.

I wish to state candidly that unlike many of the converts to the Kenny Method I cannot embrace unequivocably all of her concepts of the disease with respect to the pathological interpretation, but whole-heartedly I endorse her methods, much of her terminology and her excellent results, which justify the general acceptance and recognition of the medical fraternity. Also, I foresee the possibility of the usefulness of her technique not only in infantile paralysis but also in many other post-traumatic and surgical conditions.

To carry out the Kenny treatment most effectively it should be started within the first twenty-four hours after onset, and a recognition of the Kenny terminology of symptoms and physical findings is imperative for intelligent application of the method. The symptomatology is based on three factors:

1. Muscle spasm.
2. Incoordination.
3. Mental alienation.

It is recognized that during the onset of infantile paralysis various degrees of nervous system involvement are met. The anterior horn cells may be destroyed, or they may become swollen and temporarily functionally inactive. Adjacent portions of the cord may be involved, and even the sympathetic system and upper centers of the central nervous system. The many possibilities concerned make a rational explanation of Miss Kenny's major symptom—muscle spasm. This condition met early is manifest by painful, tender, irritable muscles which are in a state of spasm. These are the muscles which she believes are affected by the disease. Persistent spasm results in destruction of tissue. Deformities are due to the shortening of the muscle in spasm. Without treatment stiffness and contractures occur, but they are not necessarily due to weakness or paralysis of the opposing group. However, if treatment is persistently carried out the spasm will disappear, the affected muscles will be restored to their normal resting length, and full and complete range of motion will be evident in the joints. The entire group of muscles will be soft, pliable and receptive to stimulation.

To recognize spasm in acute cases visual analysis is essential. Abnormal skin creases appear. Prominence of spastic muscles is substantiated by palpation without painful motion, which always aggravates spasm, as well as the other symptoms, incoordination and mental alienation.

Incoordination is manifest in two ways: First, by the substitution of muscle activity on the part of one group for that of another, due to the painful movement of affected muscles; and second, due to ineffective motor activity within the muscles in spasm. Inadvised activity may promote incoordination. As Miss Kenny so aptly puts it "the body in movement is a symphony; every muscle is a note; infantile paralysis promotes discords."

By mental alienation is meant the inability to execute a normal voluntary or purposeful motion on the part of a muscle which is not paralyzed. This condition is considered to be a physiological block, and not an organic lesion of the anterior horn cells. Miss Kenny's supporters believe that mental alienation may be caused by:

1. An uninvolved muscle is pulled beyond its normal resting length by its involved opponent.

2. An unaffected muscle may become alienated when pain in its involved opponent is produced on its attempting to contract.

3. The spasm, or its later results, in an affected muscle may be so severe that the braking action or check on the normal opposing muscle may discourage the latter enough to produce alienation.

4. The disease may produce changes in the central nervous system which do not actually destroy the cells or fibers, but do cause loss of conducting power and interference with normal neuro-muscular action.

If, after treatment for two years, the evidence of mental alienation persists it is conceded that the muscle is paralyzed. This condition of mental alienation is constantly seen after surgery. Two notable examples are the inability to "set the knee cap" after a knee operation, due to alienation of the quadriceps, or the inability to abduct the arm after a breast amputation, due to alienation of the deltoid and supraspinatus.

Without malice I am still skeptical in only one respect with regard to the interpretation of these symptoms, and that is that mental alienation is alone responsible for the inability of muscles to perform voluntary action. If there is sufficient irritation within the spinal canal to cause spasm of one group of muscles why shouldn't it be sufficient, by intra and extra cellular changes in the anterior cornu, to cause what we have always considered as a flaccid paralysis. This might conceivably assume a state of mental alienation and with even the absolute orthodox treatment (which is condemned) be re-educated to satisfactory coordination and function. There were, of course, many complete returns of function after rather severe attacks of infantile paralysis, whether orthodox or no treatment was used. All of these factors must be given consideration when we accept with finality Miss Kenny's brilliant conception of the disease.

My own conclusions are withheld. I am satisfied that whatever interpretation one wishes is satisfactory, because by accepting Miss Kenny's ideas we embrace a course of treatment which amounts to a glorified, highly technical type of physical therapy, which offers more to the person affected with infantile paralysis, from the onset of the disease through convalescence and recovery, than anything heretofore offered; so why quarrel over whether the muscle that is mentally alienated is paralyzed or not.

TREATMENT

The objectives of treatment are:

1. To relax spasm of affected muscles and thereby:
    a. Relieve pain.
    b. Promote normal movement.
    c. Allow muscles to assume their normal resting position.
2. Promote muscle coordination.
3. Replace mental alienation by mental awareness.

METHOD OF TREATMENT

1. The position in bed is that of normal rest flat on the back. Assures constant awareness of standing reflex by board at foot of bed. Mattress up and away from board so that heel rests against board when patient is in supine position, and so that feet hang over the end of the mattress when patient is in prone position.

2. Hot fomentations are applied continuously and meticulously over the affected parts for twelve hours of the twenty-four, and sometimes longer, depending upon the severity of the case. The hinge joints which have no muscles over them are not fomented, and thereby left free. In this group are included the elbow, wrist, knee and ankle. The ball and socket joints, which are often covered with muscles in spasm, are very carefully fomented. The fomentations applied during the first three weeks are considered

most important. As the spasm disappears and pain is gone, active and passive movement are freely allowed. For the fomentations old flannel is used and boiled in a sterilizer for fifteen or twenty minutes. The strips are of special patterns and double thickness, each to cover a specific part, as hand, forearm, shoulder, back, abdomen, thigh, and hip and leg and foot. They are picked out of the sterilizer and put through a ringer into a wash tub on wheels and then covered with heavy rubber sheeting. Before the pack is placed on the patient a covering is placed under the part, consisting of a rubber sheeting, more flannel and a sheet covering. Once more the pack goes through the wringer and then is placed carefully about the extremity. The coverings are adequately secured to maintain the heat. The efficiency of the pack lasts from one-half hour to one or more hours.

3. No splints or casts are tolerated. There is no place for a respirator, as difficulty in breathing is due to spasm and when that is relieved the patient can be taught to breathe. Of the eight respirator cases which they had seven are alive and breathing normally.

4. Re-education is begun first, by passive stimulation of the alienated muscle through its normal functional range, with complete absence of help or mental alertness on the part of the patient; then by attracting the awareness of the muscle action to the patient by stimulating direction of movement by gentle strokes with the back of the fingernail near the insertion of the tendon in the direction in which the purposeful movement is to go. Then the patient tries to perform this act. The response is remarkable. Only a few attempts are made. Fatigue may cause a set-back.

We are convinced that the Kenny Method does not offer a complete and sure cure for infantile paralysis, but that it does offer more to the person afflicted with this disease than any other known method of treatment. Further, we believe that we should consider it in the light of a meticulously executed technique of physical therapy, which to be effectively administered must be scrupulously supervised and directed by an interested enthusiastically well-trained doctor in this particular field, and a more than ordinarily intelligent observing Kenny-trained nurse physiotherapist.

True, there will remain some cases with residual flaccid paralysis, but without stiff joints and contracture deformities. Kenny treated cases all have supple joints and remarkable flexibility of their bodies. We did not see a single example of scoliosis in her group, nor were there the vasomotor changes of cold perspiring extremities so frequently observed after the orthodox treatment. Also, there will be some cases, after two years of treatment, that will, because of instability, need braces for support and surgical stabilization. But, as Dr. Cole remarked in his parting words, there are fewer cases of isolated paralysis than under the old form of treatment.

This method, perhaps, is the best example of the importance of accurately treating the symptoms of a disease and controlling pain to assure a result, rather than placing too much stress on vague pathology, vaccines and serums.

Lastly, we are impressed by the possible adaptability of this method of physical therapy in post-operative muscle spasms, incoordinations and mental alienations that truly occur, and surely can be more rapidly rehabilitated by these measures.

WARNING

One must remember that the Kenny method is not simply putting packs on legs and arms. Any practitioner of medicine who attempts to carry out the routine of this technique without a full and complete understanding of all of the possibilities connected therewith, and without the assistance of skillfully trained technician in the Kenny system, will find his efforts doomed to failure and tend to bring them into disrepute. You can't leave the mother of the child, or the aunt, or the grandmother, to apply these packs after you have shown them how. You can't teach them the principles of incoordination and mental alienation and how to combat them. In fact, any orthopedic surgeon, pediatrician or M. D., who has not made a thorough study himself or studied under Miss Kenny's direction, would be far better off to follow the orthodox method in the treatment of acute infantile paralysis as well as its sequellae.

The Clinical Use of Estrogenic Compounds

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The study of endocrinology in its relation to gynecology is the study of conditions peculiar to women brought about by changes in the functional activity of the endocrine glands. Endocrinology has contributed to all branches of medicine but most of all to gynecology, yet much more will have to be done before we reach any definite conclusions or direction and, we still find ourselves in rather a confused state of mind because of conflicting reports as to results in clinical practice. Treatment is to a great extent still empirical. Gratifying results have been achieved to be sure, but it behooves us to remain conservative. It is not possible for all of us to keep up with the analysis of hormone content of blood, or of urine, or definitely to diagnose excess or deficiency of endocrine products. Neither the time required nor the costly equipment nor the special techniques are always available. Dosage depends upon symptoms and reactions and is still much a matter of individual judgement. Allen states, "We have found the relief of symptoms a more accurate guide to proper dosage than change in the vaginal smear." Keeping ourselves informed of the progress of studies made by recognized authorities in well equipped laboratories must be our sole practical guide.

We know that normal menstruation is dependent upon the endocrine glands and that if dysfunction occurs the normal processes do not go on. Much valuable information may be gained by a careful menstrual history of every patient. Adding to this a thorough physicial examination gives us some basis on which to decide our procedure.

The hormones which stimulate menstruation are the anterior lobe of the pituitary and the ovary, but changes in the function of the thyroid and pancreas may also lead to changes in the menstrual cycle, as interdependence of all the endocrine glands exists. At present it is believed that the anterior lobe of the pituitary and the ovary each produce both the luteum and follicular hormones, and that each of these has a part to play in producing the cyclic changes. Their actions overlap, follicular stimulation predominates until ovulation occurs, then the lutenizing hormone assumes the major role. Thus there must be a definite relationship or balance for a normal menstrual cycle. If lutenizing is excessive, excessive proliferation of the endometrium may occur. The ovary stimulated by the gonadotropic hormones of the anterior pituitary secretes its hormone. The growing follicle produces the estrogenic hormone. The lutenizing hormone converts the ruptured graafian follicle into a corpus luteum or progestine. The action of estrin is maintained throughout the cycle as it is produced by the graafian follicle during the first half of the cycle and by the corpus luteum after ovulation occurs. If implantation of ovum does not occur, menstruation occurs, the corpus luteum atrophies and progestine secretion decreases. The secretion of estrin reaches its peak just prior to menstruation then also subsides.

Urdan$_2$ claims that "normal menstruation implies regular occurrence of bleeding from a pre-menstrual endometrium where a corpus luteum has been formed and pregnancy could occur. This in contradistinction to regularly recurring anovulatory bleeding from an endometrium which is not in premenstrual phase, that is, a cyclic bleeding where ovulation has not occurred, a cause of sterility."

The gonadotropic hormone in human pregnancy urine is claimed to have more lutenizing substance than any other to date, but its ability to produce ovulation has not been proven. The gonadotropic hormone in the urine of pregnant mares is not like that of the pregnant woman. The pregnant mare does not excrete the gonadotropic hormone in the urine but the blood serum of the mare does contain it. Davis and Koff believe that is the serum effective in producing ovulation.

ESTROGENIC HORMONE

The estrogenic hormone increases cellular proliferation of vaginal epithelium and glycogen deposition. Slides of vaginal smears deficient in normal epithelial cells, will after treatment, show increase or normal condition of epithelium. Administration of estrogenic hormone to increase endometrial development to adult type is most valuable in vulvovaginitis of children, especially that of gonorrheal origin. It relieves itching and burning of pruritus vulvae, and dryness of senile vaginitis, premature senile vaginitis, or vaginal hypoplasia. It stimulates uterine growth in a number of cases in delayed puberty and is of great help in secondary amenorrhea. It will check menorrhagias and metrorrhagias due to ovarian deficiency. Thyroid and ovarian relationship must be considered. It stimulates cellular proliferation and growth of mammary ducts and may suppress lactation by increasing breast hypoplasia. Some have used an estrogenic ointment for massaging breasts. I do not favor this last procedure for both psychologic and traumatic reasons. In overproduction of the gonadotropic activity of the pituitary causes disturbances, as in menopause, progestine reduces the follicular stimulation and increases luteum secretion and so relieves the menopausal symptoms. By changing cyclic function of the ovaries through changes produced in gonadotropic activity, it may be helpful in relieving sterility.

Estrogenic hormone assists in sexual maturation in cases of hypoovarianism suggesting estrin deficiency. Hypoovarianism in the adolescent girl is too often neglected, largely because the public does not appreciate the value of this type of care, and the possibility of establishing early a normal functional balance. Developmental defects are usually behind dysfunction at this age, and satisfactory improvement may often follow intelligent treatment. At this age proper nutrition is obviously an important factor. A careful study to find the stage in the cycle causing delay is necessary. The anterior pituitary hormone is frequently at fault. In the young the disturbances caused by amenorrhea, or hypoovarianism differ from those of menopausal cessation. Here we have nervousness, lassitude, difficulty in school (though many of these patients have been in the upper range of ability), worry, and poor adjustment in social life are more often the symptoms. Hypoovarianism calls for substitution therapy. Dysmenorrhea is best helped in such cases by progestine.

Treatment and dosage become even more confusing because of the lack of standardization and multiplicity of names for each hormone. Rat Units, International Units, and biological assays, vary considerably. It is best, therefore, to learn the products of reliable firms and form your judgment of procedure and dosage from their specific literature. For progestine the crystalline products are preferable. The glandular extracts are distributed in ampules for subdermal and intramuscular use; tablets or capsules for oral use (these in nearly all cases only one tenth as strong as ampules); oily solutions and ointments for topical application; and vaginal suppositories. Personally, I have not had much response with treatment by suppositories. Some suppositories even cause irritation. Neither do I find much success in topical application. This may be due to lack of the patient's cooperation. Prices also vary. Recently synthetic products such as Stilbestrol have appeared on the market and are being experimented with. Because of a great reduction in price they are of great interest to us all. Reactions are, however, at times unfavorable.

PROGESTINE

Progestine prepares the endometrium for reception and development of the ovum during the last two weeks of the cycle. It is valuable in functional bleeding or threatened abortion during the first three months by quieting the contractility of the uterus. In normal pregnancy its development gradually ceases after three months. It is antagonistic to estrin and for this reason it is effective in endocrine dysmenorrhea and in threatened or habitual abortion. It may produce a change in the cycle in functional irregularities. Progestine also influences estrogens by converting estrone to estriol. The oily solution is considered best because of its slow absorption. Progestine, also, because of its inhibiting action on the overproduction of estrin which increases prior to and during menopause, may be valuable in preventing premature menopause. I believe treating early symptoms may prolong cycles. It is known that corpus luteum (progestine) is valuable in quieting contractility of the uterus and the vasomotor and emotional reactions.

Dosages must be judged in individual cases. Very severe cases and late cases require larger doses to set the internal balance after which gradually reducing dosage according to the patient's need is required.

Decontamination of Eyes After Exposure to Lewisite

Reference is made to a news release under date of March 31, 1942, regarding the treatment of Lewisite burns of the eyes with hydrogen peroxide. Further carefully controlled work conducted by the National Research Council indicates that hydrogen peroxide is entirely ineffective for treatment. Washing with large amounts of 2 per cent solution of sodium bicarbonate in water or with plain water is the most effective treatment and should be carried out as soon as possible after exposure.

This information should be transmitted to State Defense Councils and State Chiefs of Emergency Medical Service.

Sanitation Activities in Defense Areas

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In the past very little or no attention was given to sanitation in the communities in this state, primarily, because the prevalence of communicable diseases was relatively low. Even though the incidence has not increased appreciably during the period of intense activity, due to the national defense program, attention must be directed to the prevention of the spread of diseases through the application of sound public health principles. Now due to the influx of workers needed for developing the physical properties of the various war industries, there arises the possibility of bringing diseases into the respective communities. There is no doubt but that a comprehensive program of immunization should be carried on as a preventive measure. However, barriers must be erected to stop the travel and mode of transmission of the bacteria between the carrier, convalescent, or patient and the healthy host.

In each of our defense areas, there has been set up an organized local health unit comprising a specially trained physician, a sanitarian, and public health nurses whose duty it is to promote a program of public health in the respective communities. The sanitarian's role in this program is to prevent premature deaths and promulgate normal life by the elimination and amelioration of bad environmental conditions. To accomplish this, a comprehensive program must be carried out which includes developing a safe drinking water supply, adequate and dependable waste disposal, a safe milk supply, proper food handling, proper garbage removal and rodent control.

Due to a continuous educational program carried on by the State Department of Health, safe and dependable public water supplies in each of our defense areas are available. These supplies, however, do not reach all parts of the community which is rapidly being expanded. Hence, the sanitarian must work with individuals in developing private and semi-public water supplies that will be free from contamination and pollution at all times.

The matter of waste disposal in our defense areas is somewhat more difficult than that of obtaining a safe supply of drinking water. Many of our communities have no sanitary sewer system and the private sewer systems such as a septic tank and tile field, or the privy must be used. Since these are a source of danger if not properly constructed and maintained, considerable work is now being expended in replacing the old insanitary units with more sanitary types. Extensions to existing sanitary sewers are practically prohibted due to the shortage of some materials and especially labor. For this reason, privies again must be installed rather than extending sewer laterals. In one of our communities, a request has been made to federal agencies to supply funds to sanitize the entire village by installing sanitary privies.

The production of milk in this state from the standpoint of a safe food product has been more or less haphazard. Since milk forms a universal diet and is so easily contaminated, much attention is directed toward improving the quality. It is our understanding that in some of the defense plants each worker will be required to drink a certain amount of milk daily to overcome the effects of the chemicals used in the assembling line. The milk supplied to these workers must meet rather strict specifications relative to production, pasteurization, and distribution and the folks within the community feel that they and their children are entitled to as good a milk as is supplied defense workers. Therefore, a general program of milk sanitation is being carried on in most defense zones. It is quite a task to furnish the quantity of milk needed in these areas of the quality that is really safe. Here the sanitarian must work, first of all with the city authorities to promote such ordinances as will demand a safe and dependable milk supply and then put on a vigorous campaign among the producers, plants, and distributors to develop it. Since many persons have never been acquainted with the sanitary production of milk, this task is greater than we anticipated.

The fact that many of the workers in the defense industries are transients brings a new problem, that is, the house trailer. Each trailer, as is well known, must supply its own source of water, waste disposal, and garbage disposal. Since the easiest place to dispose of waste is to throw it out of the door and when the nuisance becomes too great, the tendency is to move away, one can readily visualize the danger to the health and comfort of the people of such a locality. Hence, rules, regulations, and ordinances have to be passed by the state, county, and village to insure proper regulation. The local sanitarian again assists the health authorities in drawing up rules, regulations, and ordinances to meet public health standards and then acts as inspector and instructor to see that the various trailer camps are kept sanitary.

Surveys of food handling in restaurants, taverns, soda fountains, grocery stores, meat markets and other places clearly indicate that no precautions are taken to properly protect foods, dishes and utensils from disease carrying organisms. Many restaurants, taverns or soda fountains have no means for properly disinfecting dishes and silverware, many places have poor storage facilities and almost invariably the personnel is not trained in hygiene and in food handling technique to avoid contaminating the dishes and foods they handle. Sanitation work here consists of making city officials cognizant of these dangers, passing controlling ordinances and then instructing operators how to clean up and then maintain properly their establishments.

Garbage disposal in our small communities was usually handled by each individual. Since these small communities have overnight burst into cities and no definite arrangement for garbage disposal was made, considerable nuisance has developed. Here again a program of education must be carried out with the city authorities to devise methods of collection and disposal of garbage that will prevent not only a nuisance but a possible spread of disease.

Lastly, an item that has never been experienced seriously before, is that of rodent control. Since many of the farms have been abandoned, the rat population had to move and they usually selected the closest village. Since rats are not only a nuisance but also carriers of disease, measures must be taken to eradicate them. Here again a sound and comprehensive program of rat proofing all buildings, poisoning, and trapping must be carried on by trained personnel.

At the present time we are crossing our fingers because of the possibility of malaria in this state. Surveys have shown that mosquitoes which carry malaria are present in most parts of the state; but due to the fact that hosts harboring the disease were not present, the disease was not spread. However, since personnel is being brought in from all parts of the country, it is not hard to visualize that some malaria may be expected. Hence, as a means of prevention, measures are being formulated to prevent the breeding of mosquitoes.

The above items give a brief description of the part the sanitarian plays in a community. Even though each community should have been protected by the above measures, we regret that no attention has been paid to these items and that in most instances organization had been started on the sanitation of a community without the direct request of local authorities. It is hoped that by the rapid organization of health activities serious outbreaks of communicable diseases will be prevented, and that the communities will appreciate the program and carry it on as a regular municipal function in the future.

* * *

Doctor in Wartime

A short time ago, an American Medical Association official observed that doctor calls might have to be "rationed" for the duration. The reason behind this is the immense number of doctors being called for service in the military forces. According to army heads, thousands more will be needed in the future.

American medicine is rising to this emergency with its typical spirit. Retired doctors are coming back into harness, and taking over the practices of younger men who have joined the army and navy. Other doctors are working harder, and serving an increased number of patients. And during this difficult period, the patient himself can help keep medical practices at the high standards to which we are accustomed.

Don't waste your doctor's time. Don't ask him to make a house call when you are perfectly capable of going to his office. Don't make his visits a social occasion, and expect him to sit around and visit for an hour after he gets through treating you. If, through your thoughtlessness, the doctor is forced to dissipate time, someone who urgently needs his attention may have to go without.—From Telegraph, North Platte.

The Nebraska State Medical Journal

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

MEDICAL CARE IN NEBRASKA

On the opposite page is a message from Dr. Dexter D. King, the President of the Nebraska State Medical Association. In this message Dr. King presents relative and actual figures on the census of physicians in the State, indicating that Nebraska is faced with a shortage of physicians now in practice reaffirms the well-known fact that some rural communities in wartime or under conditions of peace simply cannot maintain a physician. In their own isolation, these communities, as Dr. King puts it, follow the psychological axiom, "distance lends enchantment."

The war does not alleviate the situation for these communities, of course. Wars generally do not alleviate anything. Yet to say that they are now much worse off from this angle is to express unwarranted pessimism. Few patients are located further than one-half or one hour's drive over a good road leading to a doctor or a hospital. With modern methods of transportation we must measure distances in terms of time that it takes to reach a given destination rather than in miles which separate the areas under consideration.

The Committee on Procurement and Assignment Service for Physicians, Dentists and Veterinarians recently stated that one physician should be available for 1,500 persons. The statement sounds ominous to some. Yet it is not. A physician utilizing his time and facilities sensibly can well serve this number without too much exertion. His patients will obviously have to cooperate. In the larger centers it is not unusual even during normal times for a physician to care for many more than 1,500 patients. It is not what one may call a leisure practice, of course, but it has been done. This Journal agrees with Dr. King that the medical profession in Nebraska will meet the problem adequately. With the cooperation of the public in its eagerness to preserve good quality of medicine, there is little justification for fear, and no need for attempted reduction in scientific standards of medical care.

A Message from Your President

DEXTER D. KING

January 1, 1942, Nebraska showed a registration of 1,946 doctors. This number in itself is misleading until we consider that the total includes physicians retired from practice, internes serving in other states, and doctors not practicing in Nebraska. Actually only 1,319 are in active practice in the state. From this number Nebraska must furnish its quota to the armed forces and maintain civilian needs. With something over 250 of our doctors already in the service and more scheduled to leave soon a check on the civilian situation was deemed important. A hurried survey of 374 towns exclusive of Omaha and Lincoln was made as regards age and population. Omaha and Lincoln may be considered later but at the present time they are furnishing their quota to the armed forces in the same proportion as the rest of the state. In Omaha with the two medical schools to be considered a number of doctors of draft age are declared essential to the teaching faculties. The deans of these schools have already reduced the number of faculty members to a minimum. A similar situation exists in Lincoln where a number of large hospitals must be staffed.

The 374 towns surveyed include 888 doctors. It was found that 66 towns had no doctor at all and 54 of these were towns of between 100 and 500 population. One town of over 1,000 population also was without a physician. In the entire state there were 16 doctors born prior to 1860 and cannot be considered of any service.

The figures derived from the survey are only approximate as there are constant changes due to enlistments and disabilities. We will consider one group only as a fair index of the entire state. In towns of less than 1,000 population there were 272 doctors in the following age groups:

92 to 82	7
82 to 72	31
72 to 67	42
67 to 62	45
62 to 57	42
57 to 52	17
52 to 47	29
47 to 42	22
42 to 27	37

Communities of this size will be most affected by any decrease in the number of doctors available; the distances from town to town and into the rural area will mean added burdens on the remaining physicians, much more so than in the larger centers with their concentrated populations. According to the table, the predominating age group is between 57 and 82 years.

The migration of doctors from the smaller towns began some 25 years ago with the advent of the automobile. Travel became easy and the people began to go to the larger towns thinking they would receive better medical service. Many of you can remember when you were practicing in a small town and moved to the county seat, people who thought you were not much good in the smaller place immediately requested you in consultation after going to the larger town. Such is the psychology of the human race.

The medical profession in Nebraska will meet this emergency and see that the public receives the necessary medical care. It will mean many sacrifices even to the health of some of our doctors, but no sacrifices we can make will be as great as that made by those serving in the combat areas.

The co-operation of the public is absolutely essential. The conservation of the doctor's time will mean more to the public health than all the sugar, gas, tires and other rationing about which we so easily complain. The public should be made acquainted with these things through contact with the doctors, in the local press and any other means available.

Dexter D. King,
President.

PHYSICIANS DO THEIR PART

When the Honorable Paul McNutt, Chairman of the War Manpower Commission, on June 8, addressed the Annual Session of the American Medical Association in Atlantic City, the daily press, in its usual search for spectacular headlines, depicted Mr. McNutt as wielding an ominous stick over the medical profession because of the alleged reluctance of its members to enlist in the armed forces of our country. East and west, north and south, the news ticker announced that physicians had better enlist or else! What Mr. McNutt actually stated was that some of the states are depleting their medical ranks to such a degree that it has become necessary to discontinue recruitments. Eight densely populated states, he suggested, will have to, for a time at least, contribute most of the doctors to fill the urgent needs of the Army. More than 20,000 additional doctors, according to Mr. McNutt will be needed by the end of this year and these should come largely from New York, Illinois, California, Ohio, Pennsylvania, Massachusetts, New Jersey and Michigan.

Mr. McNutt knows and understands physicians and therefore talks straight from the shoulder. The medical profession has promised to do its utmost in this great emergency and WILL do it willingly and to the best of its ability. Perfection is not an earthly quality, yet the lag in recruitment, if it is a lag, cannot be laid entirely on the shoulders of the doctors. As the Journal of the American Medical Association points out in a recent editorial, there have been "bottle necks" in the Procurement and Assignment Service which in many instances brought about delays in clearance of commissions. It must also be recalled that not a little confusion existed as to the modus operandi of this new organization. The doctors are willing to serve. In fact, most of them as the Procurement and Assignment Service blanks indicate, would rather serve in the armed forces than remain at home.

CALORIC RESTRICTION AND CARDIAC FOUNDATION

In obesity the increased surface area of the body results in a rise of metabolism and oxygen consumption. Also the respiratory movements are limited by the high diaphragm which reduces the vital capacity by compressing the lungs. These two factors explain the diminished exercise tolerance on the part of obese individuals. Even on slight effort many fatigue easily and are subject to attacks of dyspnea.

As long ago as in 1919 Benedict and his co-workers showed a drop in oxygen consumption, basal metabolic rate, pulse rate and blood pressure, when subjects of normal weight were placed on a restricted diet. Since that time similar studies on various forms of heart disease were made by many investigators who showed clinically the value of caloric restriction in the treatment of coronary disease as well as benefit from undernutrition in congestive heart disease and heart failure.

In a recent paper Master* and his co-workers report their clinical and laboratory observations on five overweight subjects ranging in age from 15 to 50 years, and whose actual weight exceeded their desired weight by 19% to 30%. These subjects were placed on 1200 calories per diem. They remained ambulatory and pursued their normal activities. Cardiac output determinations were made according to accepted methods once or twice weekly for several months. The average loss in weight was 12% of the initial weight. The average drop in oxygen consumption was 13%. There was an average rise of 26% in the arteriovenous oxygen difference and an average decrease of 30% in cardiac output, and of 35% in cardiac work. There was an average decrease of 10 beats per minute, and a drop of 11 millimeters in the systolic blood pressure. There was an increase of 10 to 17% in the vital capacity.

These observations are significant in that they lend authority to the popular belief glibly phrased "crowding of the heart" in the obese person. This report gives evidence that in addition to the actual physical "crowding" of this most vital organ there is the biochemical phase which heretofore has received only academic appreciation. The clinician will welcome these findings not only as practicable in the care of patients who already suffer from various cardiac anomalies but also as applicable in the prophylactic management of overweight persons now potential victims of metabolic as well as circulatory diseases.

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*A. M. Master, Jenny Stricker, Arthur Grishman, and Simon Dack: Effect of Undernutrition on Cardiac Output and Cardiac Work in Overweight Subjects. Arch. Int. Med. Vol. 60, p. 1010 (June) 1942.

ANNOUNCEMENTS

American College of Physicians Will Hold Its 1943 Session in Philadelphia, April 13-16, 1943

The American College of Physicians has announced its 27th Annual Session to be held in Philadelphia, Pa., April 13 to 16, inclusive, 1943. Heretofore, the College has held a five-day session, but in the interest of conserving time and expense of its members, the program will be condensed into four days, Tuesday through Friday. Dr. James E. Paullin, Atlanta, as President of the College, will have charge of the program of General Sessions and Lectures. Dr. George Morris Piersol, Philadelphia, as General Chairman, will be responsible for the program of Hospital Clinics, Panel Discussions, local arrangements, entertainment, etc. The general management of the session and technical exhibits will be handled by the Executive Secretary, Mr. E. R. Loveland, 4200 Pine St., Philadelphia.

Other medical societies are urged to avoid conflicting dates, for our mutual benefit.

American Congress of Physical Therapy

The American Congress of Physical Therapy will hold its twenty-first annual scientific and clinical session September 9, 10, 11 and 12, 1942, inclusive, at the Hotel William Penn, Pittsburgh, Pa. The annual instruction course will be held from 8:00 to 10:30 a. m., and from 1:00 to 2 p. m. during the days of September 9, 10 and 11 and will include a round table discussion group from 9:00 to 10:30 a. m., Thursday, September 10. The scientific and clinical sessions will be given on the remaining portions of these days and Saturday morning. A new feature will be an hour demonstration showing technic from 5:00 to 6:00 p. m. during the days of September 9, 10 and 11. All of these sessions and the seminar will be open to the members of the regular medical profession and their qualified aids. For information concerning the seminar and program of the convention proper, address the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Illinois.

NEWS and VIEWS

Seventy-four graduates of the University of Nebraska Medical College and Creighton University Medical College passed the state medical board examinations in Nebraska in June.

According to press reports, "one effective physician to 1,500 people is the minimum required during war time." This ratio was fixed tentatively by the Board of Procurement and Assignment Service.

Dr. H. H. Stretton of Kansas City, Mo., and Dr. W. M. Hollander of Omaha, are the new appointees to the Hastings State Hospital.

The United States Court of Appeals on June 15th upheld the conviction of the American Medical Association and the Medical Society of the District of Columbia on charges of illegal restraint of trade in violation of the anti-trust laws. It will be remembered that last year these two organizations were fined $2,500 and $1,500, respectively on this charge.

Dr. James W. Martin of Omaha addressed the Twin Lakes district medical society in Rockwell City, Iowa, on June 25th.

A public health workshop program was held at the Teachers College in Kearney, Nebraska, and consisted of demonstrations, moving pictures, lectures, etc., on war phases of public health and its relation to the school. The program was conducted under the direction of Nina B. Lamkin and Mr. Lloyd W. Coe of the Bureau of Health Education, Nebraska State Health Department.

Dr. W. S. Petty, formerly in charge of rural health division, is acting director of the State Health Department. Dr. A. L. Miller, former director, is campaigning for the Republican nomination for congress in the Fourth District.

Drs. W. J. McMartin and Thomas McCurdy of Omaha received second place for their urological exhibit shown at the recent annual meeting of the American Urological association in New York.

Dr. Lucien Stark of Norfolk was elected president of the newly organized American Geriatrics society, a group which is affiliated with the American Medical Association. Dr. Stark served as chairman of the geriatrics society's meeting which 1,200 doctors attended.

The state defense council was among recipients of supplies valued at over $10,000 shipped in June by the Medical and Surgical Relief Committee of America. Twenty-four hospitals, casualty stations and first aid posts in America, American territorial possessions and allied countries received shipments which included emergency medical field sets, operating sets, instruments, drugs, laboratory equipment and concentrated foods.

WOMAN'S AUXILIARY

President—Mrs. W. W. Carveth
3345 Grimsley Lane, Lincoln, Nebr.
President-elect—Mrs. A. L. Miller
Kimball, Nebr.
First Vice-President—Mrs. Herbert Davis
112 South Elmwood Road, Omaha, Nebr.
Second Vice-President—Mrs. Charles Arnold
2480 Lake, Lincoln, Nebr.
Secretary—Mrs. O. A. Reinhard
2833 Sheridan, Lincoln. Nebr.
Treasurer—Mrs. K. F. McDermott
518 South Clay, Grand Island, Nebr.
Historian—Mrs. Floyd Rogers
3015 Stratford, Lincoln, Nebr.

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. Chas. P. Baker is State Chairman for the Bulletin.

Active participation in all war work, was the theme emphasized at the meeting of the Woman's Auxiliary to the American Medical Association, held in conjunction with the American Medical meeting at Atlantic City, June 8-12.

Attendance was large. The state exhibits, including a very commendable one of Nebraska's project, the Mobile Health Unit, were excellent and varied.

All meetings were held at Haddon Hall. Social affairs included a tea on Monday, honoring Mrs. R. E. Mosiman, president and Mrs. Frank Haggard, president-elect. Interesting guest speakers at the Tuesday and Wednesday luncheons and the dinner for members, their husbands and guests Wednesday, were Dr. Frank H. Lahey, out-going president of the American Medical Association; Dr. Fred W. Rankin, the in-coming president; Dr. Morris Fishbein, editor of the Journal of the American Medical Association; Dr. W. W. Gauer, director, Bureau of Health Education, American Medical Association; Mrs. Augustus S. Kech, of the Department of Health, Commonwealth of Pennsylvania; Charles Gordon Heyd, member of the Council on Medical Education and Hospitals of the American Medical Association and Dr. Raimundo de Castro, Havana, Cuba.

Mrs. J. Harry Murphy, Alternate.

The Need of Uniform Standards of Medical Licensure Is Urgent

Immediate steps should be undertaken for the establishment of uniform standards, of licensure of physicians, The Journal of the American Medical Association declares in its May 9 issue, pointing out that war conditions emphasize the great need for such uniformity. The Journal says:

"The results of the state licensing examinations published in this issue of The Journal are striking evidence of the lack of uniformity of standards of licensure among the various states. Seven states reported not one failure in their 1941 licensing examinations; indeed, they had not had a failure in the past five years. Twelve additional states have reported failures of less than 1 per cent during the same period. Other states, notably New York, have each year reported a high percentage of failures.

"In New York 21.8 per cent of the graduates of the New York State medical colleges who tried the New York State licensing examinations failed, while 39.4 per cent of the graduates of other approved medical colleges in the United States who tried these same examinations failed. Of the 145 graduates of New York State medical colleges who tried licensing examinations in other states, four, or 2.8 per cent, failed.

"The lack of uniformity of results in some states is made more obvious by the fact that a candidate is passed if he receives an average of 75 per cent and is not below 50 per cent in any subject. Furthermore, in case of failure in not more than two subjects the applicant may be entitled to another examination in the subjects failed and is considered conditioned and is not reported as a failure.

"Paradoxically, New York, which reported the highest percentage of failures among the graduates of approved medical colleges on its own examinations, issued a greater number of licenses on the basis of credentials without examination than did any other state.

"In spite of this lack of uniformity, the fact is striking that the graduates of the foreign medical schools and the unapproved schools in the United States showed the highest percentage of failures, 59.6 and 46.0 respectively. Six states licensed graduates of unapproved schools during 1941. Four states granted unlimited licenses to practice medicine to graduates of osteopathic schools.

"The best interests of the public and of the medical profession seem to demand serious thought right now on the establishment of uniform standards of licensure. These not only would facilitate the migration of qualified physicians from one state to another but would offer to the public greater assurance of the training and competence of practicing physicians. War conditions, involving as they do the migration of great masses of the population including physicians, emphasize the great need for such uniformity.

"Is it unreasonable to hope that all states will sometime be willing to maintain standards high enough to make such uniformity possible?"

MINUTES OF BOARD OF COUNCILORS

May 5, 1942

The first meeting of the Board of Councilors was called to order by Dr. A. A. Conrad, President, at 5:00 p. m. in the Pompadour Room at the Hotel Fontenelle, Omaha, Nebraska. The following members were present: Drs. W. R. Neumarker, Geo. W. Pugsley, E. L. Brush, W. E. Shook, M. O. Arnold, A. A. Conrad, J. B. Redfield, Warren Y. Thompson, C. W. Way and Clayton Andrews.

Dr. R. B. Adams, Secretary-Treasurer, and Dr. R. F. Decker, Speaker of the House of Delegates, were also present.

A motion was made by Dr. Neumarker that the reading of the minutes of the last Councilor meeting be dispensed with and that they be approved as published. Seconded by Dr. Thompson and carried.

The report of the Delegates to the A. M. A. was read by Dr. Adams.

A motion was made by Dr. Brush that the report be accepted and referred to the House of Delegates. Seconded and carried.

Dr. Adams asked for clarification of the Council's recommendation regarding the registration fee to be charged non-members at the Annual Assembly.

A motion was made by Dr. Redfield that all non-members of Nebraska and other states be required to pay a $5.00 registration fee; however, this was not to include physicians in the armed forces on active duty, internes, residents, medical students and guests. Seconded and carried.

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Secretary Adams reported to the Council that the Ortho Products Company had approached him, saying that they had a film showing the development of the human ovum, and that they would like permission to present this film to any who desired to see it after the close of a general session.

The Council instructed Secretary Adams to review the film, and then if it met with his approval, the company were to be given permission to show it.

Dr. Clayton Andrews read the report of the Committee on Medical Economics.

A motion was made by Dr. Andrews that the report be received and placed on file, and that the committee be highly commended and asked to continue efforts along these lines. Seconded by Dr. Pugsley, and carried.

Dr. Way read a resolution passed by the Saunders County Medical Society recommending Dr. Frank Tornholm for honorary membership in the Saunders County Medical Society and the Nebraska State Medical Association.

A motion was made by Dr. Neumarker, in accordance with Section 7 of the by-laws, that Dr. Tornholm of Wahoo be recommended to the House of Delegates for honorary membership. Seconded and carried.

A motion was made by Dr. Brush that the Council adjourn. Seconded and carried.

May 6, 1942

The meeting was called to order by Dr. A. A. Conrad, President of the Council, at 9:00 a. m. The following members were present: Drs. M. O. Arnold, C. W. Way, E. L. Brush, W. E. Shook, J. B. Redfield, Warren Y. Thompson, O. W. French, Geo. W. Pugsley and A. A. Conrad.

Also present at the meeting were Drs. Rudolph F. Decker, R. B. Adams, H. M. Jahr, Dexter D. King, and Mr. M. C. Smith, Executive Secretary.

Dr. Adams read the minutes of the first session of the Council.

The minutes were approved as read.

Dr. Adams read Dr. Greenhill's letter in which he stated that because of illness he would not be able to attend the meeting. He enclosed a copy of his manuscript and asked that it be read, if that was the wish of the association.

A motion was made by Dr. Brush that Dr. Greenhill's paper be read. Seconded and carried.

The following budget for 1943 was approved and recommended to the House of Delegates by the Council at the January meeting:

Salaries	$ 4,800.00
Travel	1,000.00
Office expense:	
Rent	625.00
Mimeographing	200.00
Printing	250.00
Postage	300.00
Telephone and telegraph	250.00
Miscellaneous	250.00
Councilor expense	300.00
Delegate to A. M. A.	250.00
Annual session	1,500.00
Committee expense	125.00
Audit	75.00
Student loan	100.00
Speakers bureau	375.00
Dues, Shares to Journal	1,600.00
Medical-Legal	800.00
Emergency	1,000.00
Attorneys fees	1,000.00
Office equipment	200.00
	$15,000.00

A motion was made by Dr. Redfield that Dr. R. B. Adams be unanimously reelected to succeed himself as Secretary-Treasurer. Seconded and carried.

A motion was made by Dr. Brush that Dr. O. R. Platt be reelected to succeed himself as a member of the Medical-Legal Advice Committee. Seconded and carried.

A motion was made by Dr. Pugsley that Dr. R. Russell Best be unanimously reelected to succeed himself as a member of the Board of Trustees. Seconded and carried.

The Board of Councilors adjourned, to meet again at 9 o'clock Thursday morning, May 7th.

May 7, 1942

The third session of the Council was called to order by Dr. A. A. Conrad, President, at 9:00 a. m. The following members were present: Drs. Warren Y. Thompson, J. B. Redfield, G. E. Peters, W. E. Shook, A. A. Conrad, Geo. W. Pugsley, M. O. Arnold,

C. W. Way, O. W. French, Clayton Andrews, W. R. Neumarker.

Also present were Drs. Dexter D. King, R. B. Adams, Rudolph F. Decker, A. L. Cooper, and Mr. M. C. Smith.

The minutes of the previous session were read by Dr. Adams.

A motion was made by Dr. Pugsley that the minutes be adopted as read. Seconded and carried.

The new Councilor, Dr. G. E. Peters, was introduced to the members by Dr. Adams.

General discussion relative to Procurement and Assignment, and other matters pertinent to the interests of the association followed.

The Board of Councilors adjourned, to meet again in January, 1943.

Clayton Andrews, M. D.,
Secretary.

MINUTES OF THE HOUSE OF DELEGATES

May 5, 1942

The first session of the House of Delegates was held in the Pompadour Room of the Hotel Fontenelle, Omaha, Nebraska, at 12:45 p. m. on May 5, 1942. Forty members were present.

The meeting was called to order by Dr. Rudolph F. Decker, Speaker of the House of Delegates.

The report of the Credentials Committee, which recommended that the list of delegates furnished by each county society on the official blanks be accepted as the membership of the House of Delegates for the 1942 meeting, was read by Dr. Adams.

A motion was made by Dr. Peters that this report be accepted. Seconded by Dr. Bixby, and carried.

Reading of the minutes of the last meeting was called for.

A motion was made by Dr. Bixby that the reading of the minutes be dispensed with inasmuch as they had been published. Seconded by Dr. Woodard, and carried.

The report of the Council was called for.

A motion was made by Dr. Harris that the reading of the minutes of the Council be dispensed with and the report be accepted as published. Seconded by Dr. Peters, and carried.

Dr. Rowe read the report of the Medical Economics Committee, and this report was referred to the Council.

The report of the Delegate to the A. M. A. was called for, but neither delegate was present.

A short recess was called for the purpose of selecting a nominating committee.

The meeting was again called to order by the Speaker of the House. The delegates from each district were called upon to name their selections for their districts. The selections were as follows:

1st District—J. J. Keegan, Omaha.
2nd District—J. P. Gilligan, Nebraska City.
3rd District—H. D. Runty, DeWitt.
4th District—J. D. Bradley, Pender.
5th District—C. G. Moore, Fremont.
6th District—J. M. Woodard, Aurora.
7th District—Joe Bixby, Geneva.
8th District—Neil McKee, Atkinson.
9th District—C. H. Sheets, Cozad.
10th District—Hal Smith, Franklin.
11th District—
12th District—H. A. Blackstone, Bridgeport.

A motion was made by Dr. Sheets that these men be selected as the Nominating Committee. Seconded and carried.

Dr. Adams made the announcement that the Nominating Committee would meet in Parlor D right after the meeting.

Next order of business was unfinished business.

Dr. Decker read the amendment to the Constitution introduced at the May, 1941 meeting, which was: "Amend Article 12 of the Constitution by striking out in the first sentence these words: **'registered at that Annual Assembly'** and substituting these words: **'present and voting on the question provided that a quorum of the House of Delegates is present and further',"**

A motion was made by Dr. Peters that the Constitution be amended as read. Seconded by Dr. Nielsen, and carried.

New business was called for.

Dr. Peters read the following proposed amendment to the By-Laws:

"Amend Chapter XVI—Amendments, Section 1 of the By-Laws by striking out in Section 1 these words: **'registered at that Annual Assembly'** and substituting these words: **'present and voting on the question, provided that a quorum of the House of Delegates is present and further';"**

Chapter XVI—Amendments, Section 1 would then read as follows:

"These By-Laws may be amended at any Annual Assembly by a two-thirds vote of the accredited members of the House of Delegates present and voting on the question, provided a quorum of the House of Delegates is present, and further, provided the proposed amendment has been presented in writing in open meeting of the House and has lain upon the table for one day."

The chair ruled that the amendment would lay over until the next session, when it would come up for further discussion.

Dr. Adams presented the Council's recommendation that a registration fee at the Annual Assembly be charged non-members.

General discussion followed.

A motion was made by Dr. Nielsen that the matter be referred to the Council for clarification and further study. Seconded and carried.

Dr. Decker asked permission to speak to the House, and appointed Dr. Joe Bixby to take the chair.

Dr. Decker asked that consideration be given to the matter of the amount of time taken up in the House by the reading of Committee reports, suggesting that either more time be allotted to the House of Delegates so these reports could be discussed properly, or reference committees be appointed to sift the reports and make proper recommendations.

General discussion by Drs. Wherry, Decker, Adams, Benson, Dunn, and Andrews followed.

A motion was made by Dr. Peters that this matter be laid over until the following session of the House for further study, and that Dr. Decker make such recommendations as he deemed necessary. Seconded by Dr. Bixby, and carried.

Dr. Sheets read the following amendment to the By-Laws:

Amend Section 1, Chapter XII to read as follows: "An assessment of $15.00 per capita on the membership of the Component Societies is hereby made the annual dues of this Association, except as otherwise provided. The Secretary of each Component Society shall forward its assessment, together with its roster of all officers and members, list of all Delegates, and list of non-affiliated physicians of the County to the Executive Secretary of this Association on or before the last day of February of the proximate year. If dues are not received by the Executive Secretary by this date, subscription to the Journal expires."

The chair ruled that this amendment should lie on the table until tomorrow's session.

Dr. Adams made the announcement that the Council would meet at 5:00 o'clock this evening and that the Nominating Committee would meet immediately following this session.

A motion was made that the House adjourn to meet again at 8 o'clock the following morning. Seconded and carried.

May 6, 1942

The second session of the House of Delegates was called to order by Dr. Rudolph F. Decker, Speaker of the House of Delegates, at 8:00 a. m. in the Pompadour Room at the Hotel Fontenelle, Omaha, Nebraska. Thirty-two members were present.

Dr. Adams read the minutes of the first session of the House of Delegates. The minutes were approved as read.

The report of the Council was read by Dr. Adams.

A motion was made by Dr. Rogers that the minutes of the Council be approved. Seconded and carried.

Dr. Adams read the report of the Delegates to the A. M. A.

Dr. Decker called for unfinished business.

Dr. Decker brought up the matter, which was laid on the table at the previous session, relative to the recommendations he deemed necessary in regard to reference committees, stating that he desired more time for thought on the matter and would bring it up again at the next session.

Dr. Decker read the amendment to Chapter 16 of the By-Laws which had been introduced at the last previous meeting and had laid on the table for one day, in accordance with the procedure for amendments as set forth in the Constitution and By-Laws.

A motion was made by Dr. Offerman that the proposed amendment be adopted. Seconded by Dr. Peters, and a two-thirds vote of all delegates registered having been cast for the amendment, the motion carried.

The Chair ruled that this amendment would not go into effect until the end of the last session.

Dr. Decker read the amendment to Chapter 12 which had been introduced at the last meeting and had laid on the table for one day, in accordance with the procedure for amendments as set forth in the Constitution and By-Laws.

A modification was made from the floor, which inserted the following words in the amendment: "for the duration of the war and one year thereafter," thus making the amendment read:

"An assessment of $15.00 per capita on the membership of the Component Societies is hereby made the annual dues of this association **for the duration of the war and one year thereafter**, except as other wise provided. The Secretary of each Component Society shall forward its assessment, together with its roster of all officers and members, list of all Delegates, and list of non-affiliated physicians of the County to the Executive Secretary of this Association on or before the last day of February of the proximate year. If dues are not received by the Executive Secretary by this date, subscription to the Journal expires."

Dr. Sheets accepted the modfication, and a motion was made to incorporate this modification into the original amendment. Seconded and carried.

A motion was made by Dr. Dunn that the proposed amendment be adopted. Seconded, and a two-thirds vote of all delegates registered having been cast for the amendment, the motion carried.

Dr. Adams announced that the Nominating Committee would meet at 11:30 and 4:30 in Parlor D to receive nominations.

A motion was made to adjourn. Seconded and carried.

May 7, 1942

The third and final session of the House of Delegates was called to order at 8 a. m., May 7, 1942, in the Pompadour Room of the Hotel Fontenelle, Omaha, Nebraska. Registration showed 31 members present.

The minutes of the second session were read by Dr. Adams and approved as read.

Dr. Joe Bixby read the following report of the Nominating Committee:

Report of the Nominating Committee to the House of Delegates:

For President: A. L. Cooper, Scottsbluff.

For Vice Presidents: Lester Sterns Kearney; W. E. Wright, Creighton.

For Councilors: 1st District—Warren Y. Thompson, Omaha; 2nd District—Clayton Andrews, Lincoln; 3rd District—W. E. Shook, Shubert; 4th District—G. E. Peters, Randolph; 6th District—C. W. Way, Wahoo.

For Delegate to A. M. A.—R. W. Fouts, Omaha.

For Alternate Delegate to A. M. A.—C A Selby, North Platte

For Committee on Journal and Publication—W. H. Heine, Fremont.

For Vice Speaker—Morris Nielsen, Blair.

A motion was made by Dr. Homer Davis that the report be adopted. Seconded by Dr. Rogers and carried.

The Chair called attention to the fact that two members reported by the Nominating Committee were not eligible for election as they were members of the House of Delegates. Nomination for the office of Vice President were called for from the floor.

A motion was made by Dr. Bradley that Dr. Walter Benthack of Wayne be nominated for Vice President. Seconded and carried.

Nominations for Vice Speaker were called for, and Dr. Pugsley made the nomination of Dr. Ted Riddell, Scottsbluff, for this office.

A motion was made by Dr. Morris Nielsen that inasmuch as there was only one nomination for each of the offices, that the rules be suspended and the secretary be instructed to cast the unanimous vote for the nominees. Seconded and carried.

The Secretary cast the unanimous ballot for the nominees and the following became the newly elected officers of the Nebraska State Medical Association:

President-Elect ____________________A. L. Cooper
Vice Presidents (2)_Lester Stearns; Walter Benthack
Councilor—1st District_______Warren Y. Thompson

Councilor—2nd District	Clayton Andrews
Councilor—3rd District	W. E. Shook
Councilor—4th District	G. E. Peters
Councilor—6th District	C. W. Way
Delegate to A. M. A.	R. W. Fouts
Alternate Delegate to A. M. A.	C. A. Selby
Committee on Journal and Publication	W. H. Heine
Vice Speaker of the House of Delegates	Ted Riddell

Dr. Homer Davis and Dr. H. R. Miner were appointed by the Chair to bring the newly elected President-Elect before the House.

Dr. King made the recommendation that Dr. Geo. Covey be reappointed for a term of 5 years as a member of the Committee on Medical and Public Health Education.

A motion was made by Dr. Peters that the reappointment of Dr. Covey for a term of 5 years on the Committee on Medical and Public Health Education be confirmed. Seconded and carried.

Drs. Davis and Miner presented Dr. A. L. Cooper to the House of Delegates as President-Elect, and Dr. Cooper expressed his appreciation for the honor conferred upon him.

Mr. M. C. Smith presented Mr. Harvey T. Sethman, Executive Secretary of the Colorado State Medical Society, and Mr. Sethman spoke briefly to the House.

The minutes of the last Councilor meeting were read by Dr. Adams, and included with these minutes was the 1943 budget, as approved by the Council at the mid-winter meeting.

A motion was made by Dr. Dunn that the report of the Council be accepted. Seconded and carried.

Dr. Decker spoke briefly relative to the matter of reference committees.

A motion was made by Dr. Pugsley that the speaker be empowered to appoint the necessary committees for the coming year. Seconded and carried.

The next order of business was the fixing of the place for next year's meeting.

Dr. Adams reported that Lincoln had sent an invitation to the association to meet next year in that city.

A motion was made by Dr. Davis that we accept the invitation of Lincoln to meet there next year, and that we leave the matter of hotels to the discretion of the management. Seconded and carried.

A motion ws made by Dr. Davis that the Secretary be instructed to send proper resolution to the manager of the Hotel Fontenelle for the many courtesies extended the association during the meeting. Seconded and carried.

A motion was made to adjourn. Seconded and carried.

ROLL CALL—HOUSE OF DELEGATES — 1942

	May 5	6	7
ADAMS—Juul C. Nielsen, Alt.			P
BOONE, J. E. Davis		P	P
BOX BUTTE—Chas. E. Slagle	P	P	
BUFFALO—M. B. Wilcox	P		
BURT—L. E. Sauer	P	P	P
BUTLER—D. E. Burdick			
CASS—O. E. Liston			
FIVE COUNTY—			
J. D. Bradley	P	P	P
J. C. Kildebeck			
G. E. Peters	P	P	P
CHEYENNE, KIMBALL, DEUEL—S. O. Harris	P	P	P
CLAY—H. V. Nuss			
COLFAX—F. G. Kolouch			
CUSTER—F. A. Burnham	P	P	P
DAWSON—C. H. Sheets	P	P	P
DODGE—C. G. Moore	P		P
FILLMORE—J. Bixby	P	P	P
FRANKLIN—Hal C. Smith	P		
FOUR COUNTY—J. N. Round			
GAGE—Harvey Runty, Alt.	P		
GARDEN, KEITH, PERKINS—			
HALL—Earl Farnsworth	P	P	P
HAMILTON—J. M. Woodard	P	P	
HARLAN—			
HOLT AND NORTHWEST—J. W. Gill	P	P	P
HOWARD—J. Y. Racines, Alt.	P	P	P
JEFFERSON—D. B. Kantor			
JOHNSON—Jos. A. Lanspa, Alt.	P	P	
LANCASTER—			
F. L. Rogers		P	P
W. C. Becker	P	P	P
E. W. Hancock	P	P	P
LINCOLN—C. F. Heider			
MADISON SIX—			
C. A. Pierson	P	P	
E. E. Curtis	P		
B. R. Farner			
W. E. Wright	P	P	P
W. I. Devers	P	P	P
J. D. Reid			
MERRICK—A. A. Enos			
NANCE—Homer Davis			P
C. D. Williams, Alt.	P		
NEMAHA—C. A. Lutgen		P	
NORTHWEST NEBRASKA—			
C. M. Pierce			
NUCKOLLS—J. E. Ingram			
OMAHA-DOUGLAS—			
Jas. F. Kelly	P	P	P
J. Jay Keegan	P		P
M. E. Grier			P
A. J. Offerman, Alt.		P	
O. J. Cameron	P	P	P
J. P. Redgwick	P	P	
E. M. Walsh	P		
F. Lowell Dunn	P	P	P
OTOE—J. P. Gilligan, Alt.	P		
PAWNEE—A. Byford Anderson			
PHELPS—Theo. A. Peterson			
PLATTE—R. J. O'Donnell	P	P	
POLK—H. S. Eklund	P		
RICHARDSON—H. R. Miner	P	P	P
SALINE—F. G. Travnicek			
SAUNDERS—M. E. Lathrop	P		P
SCOTTSBLUFF—Geo. W. Pugsley	P	P	P
SEWARD—J. E. Meisenbach	P		P
SOUTHWESTERN NEBRASKA—			
Fay Smith			
L. B. Brown			
J. F. Prener			
E. F. Leininger			
C. E. Minnick	P	P	P
B. I. Mills			
THAYER—F. A. Mountford	P	P	P
WASHINGTON—Morris Nielsen	P	P	P
WEBSTER—S. H. O'Neill			
YORK—H. O. BELL	P	P	

DEATHS

Dr. Alex D. Cameron, Kearney, Nebraska, was born in Lancaster county, Canada, in 1862. He graduated from Queens College and the Royal College of Surgeons at Kingston, Ontario, Canada. He served for some time as physician in the iron mills in Michigan, then he practiced medicine in Chicago until 1913 when he came to Kearney. Dr. Cameron was active in civic and political affairs of his community practically all the years that he remained in Kearney. Death occurred on June 27, 1942. Surviving are his wife, four sons, one of whom is Dr. Clark Cameron of Los Angeles, and two daughters.

Dr. Byron Bragg Hauser, Hooper, Nebraska, was born in North Carolina in 1871. He graduated from the College of Physicians and Surgeons in Baltimore in 1898. He practiced for a while in his native state and came to Nebraska in 1900, when he located in Washington county. The following year he took up residence in Hooper and remained there until his death on June 14th. Surviving are three sons.

Dr. Harry Melerian, Plainview, Nebraska, was born in Asia Minor in 1870. He came to America while a boy in his teens. He graduated from the Rush Medical College in 1896, and located in Brunswick, Nebraska the same year. He moved to Plainview in 1924 and remained htere until the time of his death on July 9th, 1942. Surviving is his wife.

Dr. George H. Marvel, Lincoln, Nebraska, was born in Illinois in 1873. In 1884 he moved with his parents to Hamilton County, Nebraska. He graduated from the Lincoln Medical College in 1905 and practiced in Aurora until 1927 when he moved to Lincoln. He died June 21, 1942. Surviving are his brothers, Drs. P. O. and J. A. Marvel of Giltner and three sisters.

Doty, David A., Denver, Colo., was born in Beaver Crossing, Nebr., in 1900. He graduated from the University of Nebraska College of Medicine in 1925, and after serving his internship at St. Luke's Hospital in Denver in 1926 he started to practice there. Dr. Doty was an active young surgeon, a member of the College of Surgeons, the county, and state societies and American Medical Association. He died June 2, 1942. Surviving are his wife, two sons and his parents.

Johnson, Chester A., Valentine, Nebraska, was born in Stuart, Nebraska, in 1897. He graduated from the University of Nebraska Medical College in 1921. He served his internship at the Grace Hospital in Detroit, after which time he located at Valentine and remained in practice there until the time of his death on June 29, 1942.

Dr. Otto G. Smersh, Omaha, not in practice, was born in 1880. He graduated from the University of Nebraska Medical College in 1903. He practiced medicine for a while when he retired to enter the treasurer's office of Douglas county. Death came on July 8, 1942. He is survived by one daughter.

MARRIAGES

Dr. Robert W. Taylor of Beatrice to Miss Lois Moor of Inman at Inman on June 27.

Dr. F. L. Garner of Seward to Miss Desta Ann Ward of Madison at Omaha on June 15.

Dr. George Tyner, Jr., of Omaha to Miss Marion Jean Walt of Sutton at Sutton on June 18.

Lieut. J. Harold Barr, U. S. N., Pawnee City to Miss Leah Bedwell of Indianapolis, Ind., at San Diego, Calif., on June 4.

Dr. W. H. Taylor, Jr., Omaha to Miss Elizabeth Cummings of Spencer, Ia., at Lake Okoboji, July 17.

Dr. James Richard Paul to Miss Geraldine Wallace, both of Lincoln at Washington, D. C., on June 16.

NEBRASKANS IN THE SERVICE

Major Dwight Davis, M. C., the son of Mr. and Mrs. Homer Davis of Genoa, has been appointed chief of the medical service at the Walter Reed General Hospital in Washington, D. C.

Dr. G. Alexander Young, Jr., of Omaha is a captain now serving at Camp Young, Indio, Calif.

Dr. J. H. Millhouse of North Platte has been commissioned captain in the Medical Corps of the Army.

Dr. Joseph Ball, formerly senior physician at the Winnebago Indian Hospital, is captain in the Medical Corps, stationed at San Luis Obispo, Calif.

Lt. W. R. Maloney of Omaha is on duty at Columbia, S. C.

Lt. Robert Crook, Falls City, is stationed at Camp Barkley, Texas.

Dr. Fred Ferciot and Dr. Allan Campbell of Lincoln have been promoted to the rank of lieutenant commanders in the Navy and are stationed at Bremerton, Wash.

Dr. R. W. Gray, formerly of the staff of the State Hospital, Lincoln, is a lieutenant in the Navy stationed in Maryland.

Captain Max Gentry, Gering, is at the Army Medical Center, Washington, D. C.

Captain Reynolds J. O'Donnell of Columbus is on duty in the army flying school at Lemoore, Calif.

Dr. R. M. Heilman of Lyons has been appointed assistant surgeon in the U. S. Department of Public Health and is stationed at Washington, D. C.

Dr. Townsend E. Dent of North Platte has been commissioned captain in the Medical Corps of the Army.

Dr. James F. Finegan, Omaha, is stationed at U. S. Naval Hospital, San Diego, Calif.

Lieut. Joseph J. Comine reported for duty in July at Camp Carson, Colorado Springs, Colo.

Dr. Joseph J. Gross left Omaha in July for Fort Mason, Point of Embarkation, San Francisco, Calif.

Captain Chas A. Tompkins, Omaha, is stationed at Barnes Hospital, Vancouver, Wash.

Captain Paul S. Read, Omaha, reported for duty at Fort Leonard Wood, Mo., on July 13.

Captain Edward S. Maloney, formerly of Omaha, is now stationed at the Army Hospital, McClelland Field, Sacramento, Calif.

Lt. Abe C. Fellman, Omaha, reported for duty at Fort F. E. Warren, Wyo., in June.

Major Joseph A. Weinberg, Omaha, reported at O'Reilly Hospital, Springfield, Mo., on July 6.

Captain C. H. Waters, Jr., is stationed at Ft. Bragg, N. C. 65th General Hospital.

Captain John G. Brazer, Omaha, is at Camp Young, 3rd Field Hospital, Indio, Calif.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. S. M. Rathbun has located in Beatrice.

Dr. B. F. Gleason has been appointed city physician at Randolph.

Dr. O. H. Margaret has returned to Papillion to resume his practice.

Dr. E. Stuart of Cedar Bluffs celebrated his eightieth birthday July 9th.

Dr. Charles Marsh is now associated in practice with his father-in-law, Dr. A. Parsons in Valley.

Dr. and Mrs. H. A. Waggener of Humboldt, entertained at a family reunion at their home June 11th.

Dr. W. A. Cassidy of Omaha had his trousers looted while they were hanging in a dressing room of an Omaha hospital.

Dr. and Mrs. James F. Kelly of Omaha entertained at an "open house" on July third when they celebrated their silver wedding anniversary.

Dr. George A. Byers of North Bend attended the annual meeting of the Canadian Medical Society at Jaspark in the Canadian Rockies. He was accompanied by his brother, Dr. S. J. Byers.

Dr. George E. Robertson of Omaha was honored on his birthday by the board members and the boys of the Omaha Masonic Home for Boys on July 15th. The dinner was given in appreciation of Dr. Robertson's service to the Home for the past eight years.

June 17th marked fifty years of service as a physician and surgeon in Seward county for Dr. Joe Morrow. At the age of twenty-two, he began to practice in Garland in the horse and buggy days. In 1902 he moved to Seward where he opened the Morrow hospital and remained as its head until 1930 when he was elected to the state legislature. After his tenure, he resumed his practice in Seward, where, at present he is medical examiner for the local draft board.

BOOKS RECEIVED

War Gases: Their Identification and Decontamination, by Morris B. Jacobs, Ph. D. Food, Drug and Insecticide Amin. U. S. Dept. of Agr., 1927; Chemist Dept. of Health, City of New York, 1928; formerly Lt. U. S. Chemical Warfare Service Reserve. 180 pages including Appendix and Subject Index. Interscience Publishers, Inc., 215 Fourth Ave., New York, N. Y. Price $3.00. Publication date June 26, 1942.

Blood Grouping Technic: A Manual for Clinicians, Serologists, Anthropologists, and Students of Legal and Military Medicine, by Fritz Schiff, M. D., late Chief of the Dept. of Bacteriology Beth. Israel Hospital, New York, N. Y., and William C. Boyd, Ph. D., Associate Professor of Biochemistry, Boston University, School of Medicine; Associate Member, Evans Memorial, Massachusetts Memorial Hospitals, Boston, with a foreword by Karl Landsteiner, Rockefeller Institute for Medical Research. Illustrated. 248 pages, including Subject Index and Bibliography. Interscience Publishers, Inc., 215 Fourth Avenue, New York, N. Y. Price $5.00. Publication date June 15, 1942.

The National Formulary: Seventh Edition, National Formulary VII, N. F. VII. Prepared by the Committee on National Formularly by Authority of the American Pharmaceutical Association. Official from November 1, 1942. Published by the American Pharmaceutical Association, Washington, D. C., 1942.

TUBERCULOSIS ABSTRACTS

As mills and factories hum, as thousands of men and women swell the ranks of labor under the pressure of war industry, problems concerning the health of workers are in danger of being pushed aside. Tuberculosis is one of the notorious wasters of manpower. Special attention must be given to this disease as it affects, and is affected by, occupation. To help clarify concepts, a symposium on tuberculosis in industry was held at the Saranac Laboratory where leaders in health and industry discussed problems which will also interest the general practitioner. A resume of the symposium follows:

Tuberculosis in Industry

The prevalence of tuberculosis in any community is determined by the general standard of living and by the number of open carriers. In particular occupations the factors of selective employment and unfavorable environment modify the picture. If such factors, work involving silica, for example, are dominant, the incidence in the wage earners will be different from that of their families.

The source of the great bulk of infections is a human carrier with a pulmonary cavity. While the home is probably the place of most childhood and some adult contacts, many primary infections and more reinfections must occur in the place of work. Nurses, physicians and attendants on the sick encounter a real occupational hazard from infection itself and this hazard should be accepted as incidental to the professional life while hospital management should assume the obligation of minimizing opportunities for mass infection.

About 65% more young women than men die of tuberculosis between the ages of 15 and 25. From a practical standpoint the employer of large numbers of women needs an effective medical department if he would avoid a tuberculosis problem. Race is a factor to be considered but it is so intricately associated with the effects of living standards and environment that its effects cannot be weighed. Nutrition is another important factor but also one of the most difficult to evaluate. The influence of fatigue has been studied in the automobile industry and in a steel mill and in neither case was there evidence to suggest that this factor was responsible for any excess of tuberculosis. The belief that abnormal degrees of temperature and humidity lower resistance has little to support it. Trauma does not initiate a primary infection of the lungs.

Tuberculosis has been regarded as the great enemy of the printer (printers and painters have about 16% more tuberculosis than all occupied males) and in turn was attributed to lead poisoning which printers might have contracted. Certain studies indicate that neither lead absorption nor lead intoxication is the cause of excess tuberculosis among lead and zinc workers.

(Continued on page xv)

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TUBERCULOSIS ABSTRACTS

(Continued from page 300)

Fumes and gases are inhalable and many of them are sufficiently irritating to provoke severe inflammatory reaction. Mature judgment on the effects of gas used by the armies during the last war reversed the early opinion that this agent was responsible for the excess of tuberculosis that developed. Routine annual examination of a large group of employees engaged in the manufacture of chlorine, phosgene, hydrofluoric acid and other irritating gases, supports the view that exposure to irritant gases is not responsible for excess tuberculosis.

The general thesis that inflammation of the lungs is necessarily unfavorable to the course of associated tuberculosis has little support. It is probably true that certain kinds of inflammatory reactions may have some influence. The increased incidence of tuberculosis that followed epidemic influenza may have been due in part to pneumonic complications.

In grain handlers exposed to high concentrations of organic dust in unloading lake steamers, 2.5% of a group of 234 showed X-ray evidence of clinically significant tuberculosis and another 2.3% had old healed lesions. Social-economic factors rather than grain dust were thought to be responsible. Tobacco dust has been under suspicion as a cause of tuberculosis since Ramazzini's time in 1700. Yet, in a modern cigar factory with a well organized medical service and air conditioned rooms there was less tuberculosis than in the city where the plant was located. Metropolitan mortality figures for 1937-39 show an index for tuberculosis of 107 in cigar and tobacco factory operatives but it should be noted that 75% of the labor, which now produces only 25% of the product still works in small shops without health supervision.

Low rates for tuberculosis were found in the Saranac Laboratory studies of the cement and gypsum industries. The usual amount of healed infection was disclosed, so that opportunities for infections had not been lacking.

All these observations support the view that exposure to organic and nonsiliceous dusts has little influence on susceptibility to tuberculosis. Reports on foundries, quartz mining and the granite industry brought out that higher tuberculosis rates prevail in these trades, that there is a greater tendency for such infection to develop after the age of 40 rather than earlier and that the infection is extremely chronic, often giving no symptoms of intoxication or a positive sputum until shortly before death. In miners the incidence becomes higher and the prognosis of associated tuberculosis worse as the silicotic reaction increases. Miners exposed to silica dust with no roentgenographic evidence of reaction showed little more tuberculosis than the community in which they lived. Foundries seem to be responsible for the least amount of tuberculosis, while the granite industry showed that it probably caused the most.

Vermont marble workers had two and one-half times as much tuberculosis as the general population of the state (largely rural) exclusive of the

(Continued on page xvii)

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TUBERCULOSIS ABSTRACTS

(Continued from page xv)

granite center in Barre. By contrast, the rate for granite workers was 130 times the general one.

The value of a good industrial hygiene program was brought out by the experience of the Eastman Kodak plant. This program costs $10,500 annually, but it also cost $3,218 to treat one minimal case of tuberculosis. The attack rate in this plant has fallen from 2.3 at the outset of a study to 0.2 at the present time.

The complexities of compensation insurance carriers were discussed. One plan proposed was that evidence of tuberculosis in any form should preclude employment in industries with silica or other proved hazards and that compensation should be allowed for all tuberculosis subsequently developing in such employment. In other industries, with no specific hazards, persons with healed tuberculosis should be permitted to work but no compensation should be allowed for infections that might become active or develop during employment. In view of the evidence that old tuberculosis so rarely breaks down in any industry except industries with silica hazards, this would appear most equitable.

In the summary it was pointed out that, aside from nutrition and social-economic factors, silica is the only other one which has a recognized effect on susceptibility to tuberculosis. Many industrial conditions popularly accepted as predisposing to this disease are without measurable effect.

A Symposium on Tuberculosis in Industry Held at the Saranac Laboratory, Saranac Lake, New York, in June 1941: A Resume. Journal of Amer. Med. Assn., Feb. 21, 1942.

"Tuberculosis in Industry" a paper-bound volume of 374 pages, with fifty charts and illustrations, is a complete symposium contributed by twenty-eight industrial hygienists at Saranac Lake, June, 1941. It may be obtained from any local or state tuberculosis association or the National Tuberculosis Association, 1790 Broadway, New York, N. Y. Price on request.

Management of Cancer

The underlying principle of the modern management of cancer is coordinated team work. It is improbable that any one man can perform all the duties and carry out all the techniques required. Any organization that sets itself up to manage cancer must contain at least a surgeon, a roentgenologists and a pathologist. This is the minimum requirement in personnel. There should also be added to the group an internist to advise concerning the diagnosis of cancer in deeper organs, and specialists who devote attention to each particular part of the body for advice in connection with tumors in special locations. It would be well also to have on such a team a chemist and a physiologist. These could offer many helpful suggestions concerning special features of this disease. Each member of the team should have equal standing. Each should be considered as a consultant who is able to add something to the full understanding of cancer and to its management in any particular patient.—James P. Simonds, M. D., Chicago, Ill. Med. Jour., Vol. 81, No. 5, May, 1942.

Laboratories of Clinical Pathology

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Always Use Mild Tincture of Iodine

The strong (7 percent) tincture of iodine never should be applied to a wound, according to an announcement by E. Fullerton Cook, Phar. D., Philadelphia, chairman of the Committee of Revision of the Pharmacopeia of the United States of America. The Journal of the American Medical Association reports in its July 18 issue. The strong tincture evaporates quickly, leaving crystals of free iodine in the wound, which injure the tissues and prevent healing.

According to Dr. Cook, The Journal says, "pharmacists should always sell the U. S. P. Mild Tincture of Iodine for first aid, not the strong tincture of iodine; neither should they prepare the mild tincture by diluting the strong tincture, for then it will contain potassium iodide instead of sodium iodide, and the alcohol percentage will not be correct. Sodium salts are much better for application to a wound than are potassium salts."

Considerable publicity attended the assignment of a prominent conscientious objector to the medical corps of the United States Army after his change of heart.

To the general public this would intimate that the men of the medical corps are in the light of nonparticipants in this war which exemplifies our antagonism to regimentation and pressure tactics. The War Department should be cognizant of the fact that besides being doctors the members of our profession are men and American citizens.

History is replete with examples of active participation in battle by officers and enlisted men of the medical department in previous wars. Many instances of bravery in actual combat are listed among doctors in service. The odium of this assignment and its attendant publicity is intolerable to the ultimate morale of the medical department.

Thousands of physicians will work and fight in any manner in combat or in the hospital that a democratic type of government shall continue. Their service branch should not be the dumping ground for those few whose selfish desires are paramount to freedom. Editorial from the June issue of the Michigan State Medical Journal.

Minute Sulfathiazole Crystals

Minute crystals (microcrystals) of sulfathiazole, a derivative of sulfanilamide, prepared by a new procedure, have been found to be more effective aids in treatment of surgical wounds and local infections than the ordinary large sized crystals of the drug. Francis Schumann, M. D., and L. Kraeer Ferguson, Leslie A. Chambers, Ph. D.; T. N. Harris, M. D.; M. D., Philadelphia, report in the May 23 issue of The Journal of the American Medical Association.

In certain procedures it is desirable to inject the sulfonamides through fine hypodermic needles, they explain. Usually this is not possible because of the large size and irregular shapes of the crystals. It was found that direct vibration did not reduce the size of the crystals. However, an indirect procedure involving sonic agitation has been developed which reduces the crystal size sufficiently to permit passage through 26 gage needles. By sonic agitation is meant vibration by means of high frequency audible sound waves.

The authors say: "The results with the local use of the microsulfathiazole in thirty traumatic wounds and 57 cases of infection have been favorable. It was used in suspension in the abdomens of 19 patients with no untoward results . . ."

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Ureteral Calculi*

Review of 350 Cases

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From a clinical study it is apparent that the majority of ureteral stones originate in the kidney, and their progress is arrested in their passage down the ureter. It is readily understood why calculi form in the ureter with considerable difficulty, inasmuch as the walls of the ureter are smooth and regular and small accumulations of crystalloids are readily washed into the bladder by the urinary stream.

In the literature, however, instances are cited in which calculi developed ab initio in the ureter. In such cases stones formed in sacculations or diverticula, being associated with a stricture of the ureter. Even in these cases a question arises and an element of doubt exists as to whether or not the stone originated in the kidney.

ETIOLOGY

Since the majority of ureteral calculi form in the kidney, the etiologic factors associated with renal lithiasis must be given consideration. It is essential that the following factors be investigated preoperatively in order that their correction or eradication may be accomplished during the operative procedure or during the postoperative regimen. Only by such intensive study can recurrences be reduced to a minimum. Therefore, the presence or the absence of the following conditions must be determined: (1) Focal infection, (2) infection of the urinary tract, (3) stasis, (4) vitamin A deficiency, (5) vitamin B deficiency, (6) hyperparathyroidism, and (7) metabolic diseases such as gout and cystinuria which may be associated with uric acid or cystine stones respectively.

From such study it is apparent that no single etiologic factor is responsible for the formation of all calculi. Therefore, each patient must be individualized and the causative factors determined. Only by such investigation can a satisfactory postoperative regimen be determined.

THE STONE

It is obvious that smooth calculi pass down the ureter more readily than do rough stones. Since uric acid and cystine calculi are quite smooth, they usually pass spontaneously into the bladder. Thus, the majority of calculi lodging in the ureter are composed of phosphates, carbonates and oxalates, or various mixtures of these crystalloids. Joly(1) stated that when aseptic they are composed of calcium oxalate, and when infected they are phosphatic in type. Similarly, the larger stones usually are composed of phosphates. The stones vary considerably in size from that of a grain of wheat to enormous sizes. Lily(2) mentioned one which was three inches in length and weighed 64.8 gm.

The shape of a ureteral calculus is of considerable significance in differentiating it from other calcifications which may be discernible on the initial roentgenogram. A calculus which has recently passed from the kidney into the ureter usually is round or ovoid in shape. A similar appearance may be noted if the stone is present in a dilated ureter. If, however, a stone has been lodged in the ureter for a considerable period of time, it may become elongated so that its longitudinal diameter is much more than its transverse measurement. This is an expected event, as it has long been recognized that an impacted stone tends to grow upward against the urinary stream.

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*Read before the Omaha Mid-West Clinical Society, October, 1941.

There may be single or multiple stones, but as a general rule only one stone is present. If multiple stones are present they may become faceted from lying in contact with one another. If the ureter is dilated, they may remain round and smooth. Joly states that in every case of multiple stones in the ureter he has seen, the ureter has been dilated. This has not been my experience, howver, and I have removed as many as 17 stones from the lower ureter in which dilatation was not evident.

AGE OF PATIENT

A stone in the ureter is a disease of middle life; approximately two-thirds of the cases occur between the ages of 20 and 50 years. It is stated to be rare in childhood or in old age.

In a series reviewed in St. Peter's Hospital, of 32 patients operated upon for ureteral calculi, the following statistics were presented:

Age	Cases	Age	Cases
0- 9 years____	2 cases	40-49 years____	9 cases
10-19 years____	0 cases	50-59 years____	3 cases
20-29 years____	7 cases	60-69 years____	3 cases
30-39 years____	7 cases	70-79 years____	1 case

In the series reviewed here, the following was observed in 350 cases:

Age	Cases	Age	Cases
1-10 years____	1 case	51-60 years____	53 cases
11-20 years____	10 cases	61-70 years____	31 cases
21-30 years____	39 cases	Over 70 years__	11 cases
31-40 years____	103 cases	Age not stated_	11 cases
41-50 years____	91 cases		

The youngest male was 9 years of age, and the youngest female was 13 years of age. The oldest male was 79 years of age, and the oldest female was 67 years of age.

SEX

A preponderance of ureteral calculi occurs in the male sex. Jeanbrau(3) states that 61 per cent occur in males and 39 per cent in females. Bumpus and Scholl(4) state that 68 per cent occur in males and 32 per cent in females. In our series, 79.7 per cent occurred in males and 20.3 per cent occurred in females.

SIDE INVOLVED

Ureteral calculi occur with equal frequency on both sides. In this series, 163 calculi were present in the right ureter and 181 in the left ureter. In 6 instances the calculi were present in both ureters. Bilateral ureteral calculi occur much less frequently than do bilateral renal stones. Bumpus and Scholl(4) reported the incidence of 1.2 per cent; Jeanbrau(3) cited an incidence of 3.6 per cent; while in this series bilateral stones were present in the ureters in 1.7 per cent.

SITE OF IMPACTION

The majority of ureteral calculi become impacted in the pelvic portion of the ureter. This arrest in the downward progress of the stone may be temporary and the stone may later pass spontaneously into the bladder; assistance may be rendered by manipulative measures, or surgical intervention may be required. The reason for calculi lodging in various portions of the ureter may satisfactorily be explained by a study of the anatomic characteristics of the normal ureters in cadavers. Here it may be observed that the caliber of the ureter varies in its different portions. The points of constriction occurring in the normal ureter are: (Fig. 1) (1) at or just below the junction of the ureter and the renal pelvis, (2) at the point at which the ureter crosses the iliac vessels, (3) at the base of the broad ligaments in the female and the vas deferens in the male, (4) at the point at which the ureter enters the external muscular layer of the bladder and (5) at the ureteral orifices. Between these points of constriction the ureter is widened into spindles, the diameter of which decreases progressively downward.

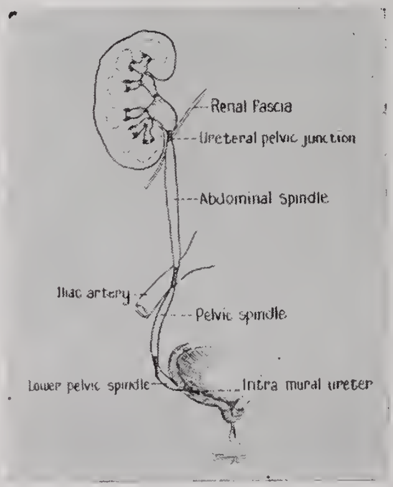

Fig. I

In addition to these observations, it may be noted that physiologic angulations of the ureter occur (1) at the point at which the ureter crosses the iliac vessels and dips downward into the true pelvis, and (2) at the pars juxtavesicalis which presents a physiologic angulation of from 90 to 135 degrees. Undoubtedly these observations explain the incidence of stones at various levels in the ureter.

In this series 77.4 per cent of the stones were observed in the lower ureter. Of these, 63.3 per cent were in the pelvic portion of the ureter and 14.4 per cent in the intramural portion. The positions of the calculi were as follows: Right upper ureter, 14 cases; left upper ureter, 16 cases; left mid ureter, 22 cases; right mid ureter, 21 cases; right lower ureter, 128 cases; left lower ureter, 143 cases. Bilateral in 6 cases; right lower ureter and left lower ureter, 3 cases; right lower ureter and left upper ureter, 1 case; right mid ureter and left mid ureter, 1 case; right mid ureter and left lower ureter, 1 case.

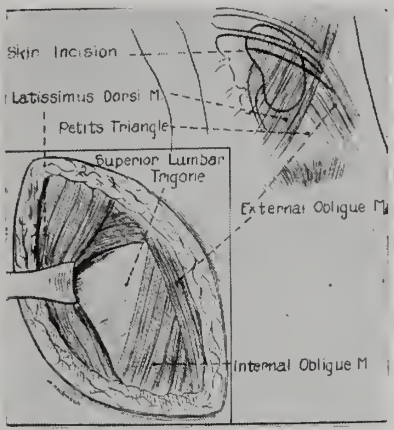

Fig. II

SYMPTOMATOLOGY

The symptoms produced by a stone in the ureter are influenced by position of the stone, whether it is migrating or stationary, by the presence or absence of infection, and, finally, whether or not the stone is producing sufficient obstruction to produce symptoms of back pressure. If the calculus is small and readily passes down the ureter into the bladder, the patient experiences a sudden attack of renal colic. The pain is extremely severe. It starts in the back in the costovertebral angle and spreads or radiates along the course of the ureter. The pain is steady, or may be accompanied by acute paroxysms at varying intervals of time. The individual is unable to be quiet, striving to find a position which affords relief. The abdomen is distended and tender. The face is drawn and pale, and the patient perspires freely. The pulse is rapid, and nausea and vomiting occur. The attack may last from a few minutes to several hours. The attack may end suddenly with passage of the stone into the bladder, or subside gradually; in the latter case the stone may still be present in the ureter but urine may be passing around it into the bladder. In this latter group repeated attacks of colic may occur as the calculus again produces an obstruction.

In the group of patients in whom the stone was impacted in the ureter, a previous history of a typical attack of renal colic was elicited in 68 per cent of the cases.

When the stone is impacted, the symptoms are influenced by the position of the calculus. If the stone is in the upper ureter the pain may occur in the costovertebral angle, simulating a renal calculus; or it may be referred to the left or right lower quadrants. When the stone is in the lower ureter, the pain may be referred to the left or right quadrants. If, however, the calculus is just outside the bladder, the pain may be referred to the genital organs. In the male having pain referred along the vas to the testicles the pain may at times be referred to the rectum. If the stone is in the intramural portion of the bladder, the patient may complain of vesical tenesmus and frequency, and the pain may be referred to the tip of the penis.

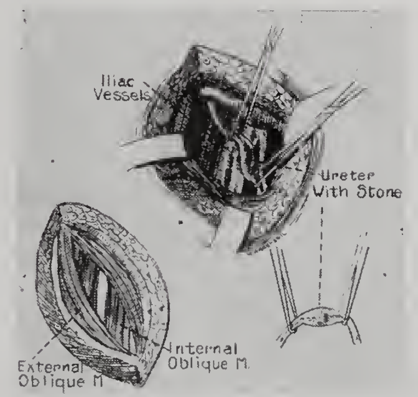

Fig. III

In this series of 350 patients, 210 or 60 per cent had the typical severe attack of colic; while 131 or 37.5 per cent complained of dull, indefinite abdominal pain; and in 9 or 2.5 per cent the patients complained of dysuria, frequency, urgency and stranguary. Twenty per cent of the patients presented symptoms definitely not referrable to the urinary tract, the pain being referred to the upper quadrants of the abdomen in 14 per cent, and to the right or left lower quadrants of the abdomen in 6 per cent.

It was noted that exercise or activity tended to aggravate the symptoms if the stone was impacted in the ureter. In this group of cases 54 per cent of the patients who expelled the calculus did so within 16 days after examination at the clinic.

The examination of the urine revealed neither pus nor blood cells in 11 per cent of cases. Therefore the urine may appear normal. Microscopically, blood is not associated with ureteral calculi as frequently as with stones in the kidney. When a coexisting infection is present in the kidney, albumin and pus are frequently noted in the urine.

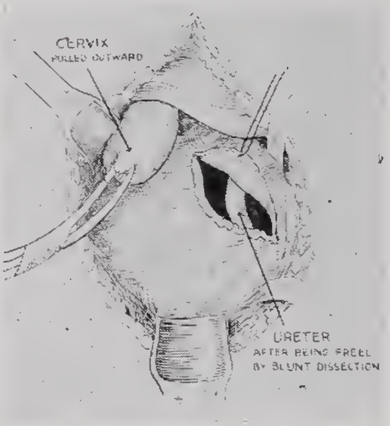

Fig. IV

In 15 per cent of cases in this series only an occasional pus cell was present in the urine. Thirty-one per cent of the patients observed gross hematuria, while in an additional 37 per cent red blood cells were observed in the urine on microscopic examination. The remaining cases showed a greater or lesser degree of frank pus in the urine, so that these were complicated by renal infection.

DIAGNOSIS

The symptoms produced by a ureteral calculus may so closely simulate those produced by a renal calculus that an accurate diagnosis cannot be made without radiographic study.

Upon physical examination tenderness may be present in the costovertebral angle, accompanied by a moderate degree of muscular rigidity. The muscular rigidity usually involves the oblique abdominal muscles and only rarely the recti muscles. Rarely may the stone be palpated in the ureter except in its lower-most portion, when it may be palpated by rectal or vaginal examination.

In this series of 350 cases the calculi were visualized in 97 per cent of the cases. It has been stated in the literature that from 8 to 12 per cent of ureteral calculi cannot be visualized on the initial roentgenogram. However, refinements in technic, improved quality of films and roentgen ray apparatus have materially reduced the incidence of so-called nonopaque calculi. In my experience the stones most difficult to visualize are those obscured by the bony pelvis and small stones lodged in the ureteral orifice.

Wax tipped catheters are of value at times in detecting the presence of a ureteral stone, but we seldom use them.

Intravenous urography and cystoscopy with ureteral catheterization usually establish an accurate diagnosis. As the stones approach the bladder, more or less typical changes occur about the ureteral orifice, varying degrees of bullous edema and gaping of the orifice being present. Ureteral catheterization with an opaque catheter may determine the position of the stone, the renal function, the presence or absence of renal infection, and the degree of obstruction being produced by the calculus. Phleboliths, atheromatous plaques on the vessels, intestinal contents or tuberculous glands may resemble ureteral calculi, but may be ruled out by cystoscopic investigation. It should be mentioned that a lateral film is of inestimable value at times in establishing a diagnosis of stone in the ureter.

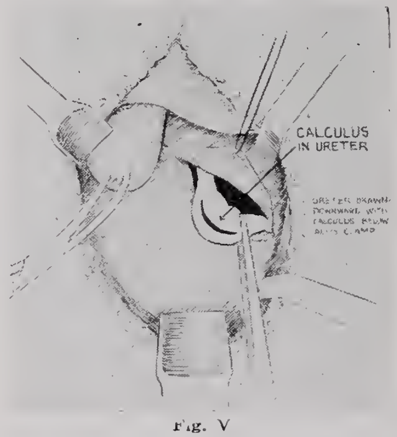

Fig. V

DIFFERENTIAL DIAGNOSIS

Difficulty may at times be encountered in interpreting the patient's symptoms. The past history should be secured to ascertain if the patient has ever experienced an attack of renal colic. The passage of a small stone down the left ureter may closely simulate acute intestinal obstruction, i. e., acute abdominal pain, distention or moderate muscular rigidity. The distention is not relieved by an enema, but may be relieved by passing a catheter beyond the stone, thereby relieving the obstruction. Vomiting and a rapid pulse rate may be present. In this type of case examination of the urine for red cells is of special importance. A repeated check of the pulse rate is essential, for while with an intra-abdominal lesion there may be a progressive increase in the rate, in ureteral colic there is an initial rise and a tendency to remain steady. Roentgen study is finally of value in establishing the diagnosis.

A stone impacted in the right lower ureter also may simulate appendicitis. Here again a history of previous colic and the onset of symptoms are of value from the diagnostic standpoint. The presence of red cells in the urine also is of significance.

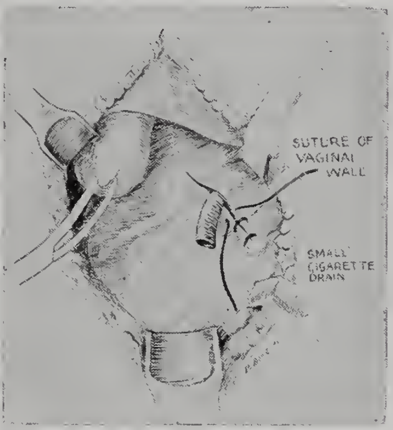

Fig. VI

While the passage of a stone down the right ureter may simulate gallbadder disease, it is not as common as renal lithiasis. Here we are not, as a general rule, dealing with an emergency and sufficient time may be allotted for urologic study in doubtful cases.

MANAGEMENT

The procedures advocated for the management of ureteral calculi are (1) medical, (2) cystoscopic, including manipulative procedures, and (3) surgical intervention. The treatment to be advocated in each case may be influenced by several factors.

Economic status of the patient: The economic status of the patient may influence the procedure to be instituted. A laborer who is experiencing repeated attacks of colic from a stone lodged in the upper third of the ureter and in whom the calculus remains stationary or moves downward very slowly, may at times be restored to his gainful occupation in a shorter period of time by open operation. Because of the repeated attacks of colic, his income is materially reduced necessarily by his inability to work. The occupation of the individual whose well-being may be endangered by repeated attacks of colic presents a similar problem, as do individuals whose occupations require considerable exertion and expenditure of energy which provoke attacks of colic and who, owing to their financial status and obligations, require more immediate relief of symptoms.

Size of calculus: It may safely be stated that the larger the calculus, the less likely it is to pass spontaneously and the less frequently will manipulative procedures be rewarded by expulsion of the stone. As Joly(1) has stated, however, patients passing stones at varying intervals of time are able to pass progressively larger calculi.

If a patient has not passed calculi previously, resulting in some degree of dilatation of the ureter, and if the stone is over 2 cm. in diameter, repeated manipulative efforts to assist the passage of the stone are not advisable. Also, if the patient tolerates instrumentation poorly, as indicated by a pronounced clinical reaction or by the development of acute pyelonephritis, further manipulative procedures should not be advocated.

In this series of 350 cases it was observed that calculi larger than 1 cm. in diameter infrequently passed down the ureter spontaneously; however, in the absence of indications of back pressure they may be observed and followed by progress roentgen studies.

A stone in the lower third of the ureter is more amenable to manipulative treatment than one in the upper third of the ureter. If the calculus is 1 cm. or less in diameter and is lodged in the upper third of the ureter, in the absence of evidence of back pressure it is preferable to delay manipulative efforts at expulsion until the stone passes or descends to the lower third of the ureter. If the calculus is impacted in the upper third of the ureter and repeated roentgenograms show no downward progress, open operation is advisable.

Status of the kidney above the stone: Continued clinical evidence of renal back pressure substantiated by roentgenographic study revealing the presence of a progressively enlarging hydronephrosis contraindicates continuance of conservative treatment or manipulative efforts. This is especially true in the presence of a coexisting renal infection. In many instances, however, owing to the caliber of the stone or the presence of a groove in the calculus, very little evidence of obstruction is demonstrable, so that in the absence of infection conservative procedures may be employed.

In the literature may be found many references to the so-called dead kidney associated with complete obstruction of the ureter from a calculus. Such erroneous deductions are based on the fact that the intravenous urogram does not reveal the presence of the dye in the kidney. Such conclusions are unwarranted for repeatedly we see such a urogram associated with a ureteral stone, only to find that after the stone has been removed the kidney returns to normal. Thus, a so-called and erroneously called nonfunctioning kidney may have excellent function as demonstrated by renal function tests and intravenous urography after the obstruction is removed.

Age of the patient: In the elderly, debilitated, senile patient repeated manipulative procedures are not well tolerated and should be avoided. This is especially true if a man has an enlargement of the prostate, in whom manipulative procedures may be difficult and attended by considerable trauma.

In very small children we prefer open operation. Manipulative procedures are technically more difficult and we are obviously unable to secure as good cooperation in children as can be secured in adults.

The presence of congenital anomalies, fibroid uteri, hypertrophy of the prostate and other allied conditions may render manipulative procedures difficult and unsuccessful. In the presence of anuria the possibility of bilateral ureteral calculi must always be considered, or the possible presence of a solitary kidney. In such instances we are dealing with an emergency and, if possible, the passage of a catheter above the stone to establish urinary drainage in the preferable procedure, delaying the attack on the calculus by the procedure indicated in the given case until after the crisis has been passed.

Manipulative procedures: In recent years there has been much enthusiasm regarding the manipulative management of ureteral calculi. In many instances it is recommended for cases in which surgical intervention would not only lessen the hardship on the patient, but also would be attended by a lower mortality and morbidity. Certainly, the promiscuous, repeated manipulative treatment of ureteral calculi, regardless of the size and position of the stone should be condemned.

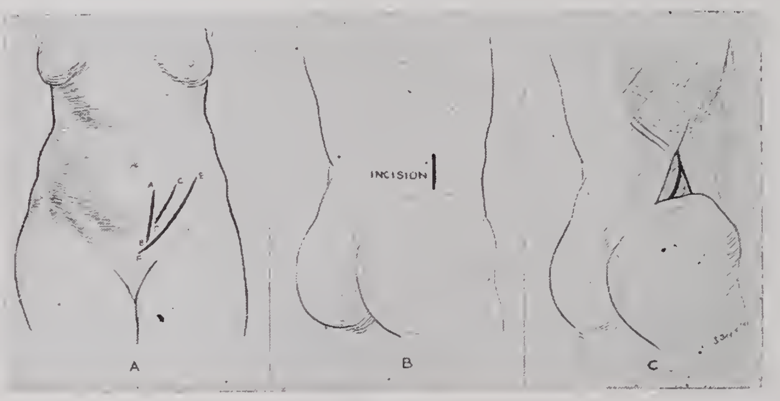

Fig. VII

The large number of instruments available today for the manipulation of stones attests to the fact that no one instrument or method is suitable in all cases. I believe that less damage is done to the ureter by a clean surgical approach than by the repeated passage of metallic instruments up the ureter.

Although large series of cases have been reported extolling the virtues of manipulative procedures, there exists a paucity of communications citing the failures of treatment, the hardship on the patient, and the immediate complications, mortality and morbidity accompanying this line of attack. In this series of cases 18.9 per cent of the stones passes spontaneously. If any of this group had been treated by one of the various manipulative procedures we would have been highly gratified, and would speak with enthusiasm for the instrument employed. It is well to remember that repeated manipulative attacks may fail, necessitating eventual open operation. In the presence of stasis, even with the most painstaking precautions, the introduction of an infection may complicate the picture.

I do not wish to minimize the value of manipulative procedures in the management of ureteral calculi, but only to stress individualizing the patient and the selection of the procedure best adapted for the patient. In the manipulation of stones I prefer the use of multiple catheters. If the calculus is in the upper third of the ureter, if it is less than 1 cm. in diameter, and if it is moving spontaneously down the ureter manipulative treatment is delayed until the stone reaches the pelvic portion. Then the use of multiple catheters is advised.

Calculi present in the intramural portion of the bladder may be visualized cystoscopically by a bulging immediately above the ureteral orifice and the presence of bullous edema about the orifice. In this group a meatotomy is performed and the stone withdrawn with the spiral extractor. Fulguration of the mucosa over the stone also will permit its spontaneous passage. In instances in which the meatotomy is performed, the patient always returns later for dilatation of the orifice in order to prevent stenosis. Occasionally a small portion of the calculus can be seen extending from the orifice. This can be grasped with forceps and gently teased out of the ureter.

If the intravenous urogram reveals considerable dilatation of the ureter above the calculus, manipulation is avoided if possible, as the calculus may be dislodged and readily slip up to the kidney pelvis.

Undoubtedly, experience with numerous procedures influences the advisability of advocating manipulative procedures and the instrument to be employed in a given case. Therefore, in advocating manipulative procedures, the following should be considered: The economic status, the age of the patient, the status of the kidney above the stone. As a general rule manipulative procedures should not be employed (1) if the caliber of the stone is more than 2 cm. in diameter; (2) when the patient does not tolerate cystoscopy well; (3) following the development of acute pyelonephritis after a manipulative procedure; (4) in the presence of a progressively enlarging hydronephrosis, especially if infection coexists; (5) when repeated attempts at manipulation fail; and (6) when the stone has been impacted in the ureter for a long period of time. Various other types of treatment to facilitate the passage of stones also have been utilized, such as the use of postigmine, or the use of ureteral catheters and the local injection of avertin as described by Jarman and Scott(6). Certainly, dogmatic statements should be avoided as instances arise in which each of the previously mentioned objections to manipulative efforts are not tenable.

Operative treatment: Time does not permit a detailed discussion of the operative treatment of ureteral calculi. The operative removal of the calculus may constitute but one phase in the management of this group of patients. The status of the kidney must be given consideration. In recent years refinements in operative technic have diminished the period of hospitalization, the morbidity and mortality in this group of patients. A muscle splitting extraperitoneal approach is utilized in removing the calculus in every portion of the ureter (Fig. 2, 3). This definitely lessens the possibility of hernia and in many instances the patient may leave the hospital within seven days after operation. At the time the incision is made in the ureter for removal of the stone, I prefer not to cut into the ureter directly over the calculus. At this site there is already a ureteritis and periureteritis, and the danger of stricture formation is greater than if the incision is made slightly above the stone. A forceps is then gently introduced into the ureter and the calculus removed. The incision in the ureter is closed with plain triple 0 catgut, passing through the outer coats of the ureter but not through the mucosa. Drainage with a small rubber tissue drain is instituted in all cases.

I prefer spinal anethesia if the patient's general condition does not contraindicate its use. Relaxation is more complete, exposure is more adequately secured, and postoperative plumonary complications are reduced materially.

Vaginal ureterolithotomy is one means of removing a calculus from the lower ureter in women and merits especial consideration. If the calculus can be palpated on vaginal examination it may readily be removed by this route (Figs. 4, 5 and 6). This has been accomplished in 11 cases with no complications. While it has been stated that a fistula may result, it has not occurred in this series.

I feel, therefore, that a stone in the ureter should be removed by open operation when the stone exceeds 1 cm. in diameter and when it fails to show downward progress toward the bladder as indicated by progress roentgenograms. This is particularly true if the stone is in the middle or upper third of the ureter. In the presence of complete obstruction of the ureter, or a progressively enlarging hydronephrosis associated with infection, I prefer immediate operation if the patient's general condition permits the procedure.

RESULTS

In this series of 350 cases, 66 or 18.9 per cent of the calculi passed spontaneously; in 56 cases or 16 per cent, the stones passed after manipulation, while in 228 or 65.1 per cent surgical intervention was instituted. In the series of 228 patients in whom open operations was performed, there were 4 deaths, all the other patients being discharged from the hospital in satisfactory condition. One patient died of peritonitis, one of postoperative pneumonia, one of a cerebral embolism, and one from cardiac disease. In the complete series of operative cases, a ureteral fistula persisted in one instance, later requiring nephrectomy.

CONCLUSIONS

1. A complete and comprehensive study of the etiologic factors associated with calculous disease is essential in each case.

2. A critical evaluation of all procedures available for the removal of the calculus should be made before instituting treatment.

3. The status of the kidney above the stone should be investigated.

4. Surgical intervention should not be delayed in indicated cases as the mortality and morbidity is extremely low.

5. An adequate postoperative regimen should be instituted to prevent the further development of renal calculi.

6. The method to be employed is influenced by the surgeon's experience with the various procedures, and the one to be employed is that which has given the best results in his hands.

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IN THIS ISSUE

EVERY practicing physician at one time or another has been, or will be called upon to deal with a case of ureteral stone. The classical symptoms produced by this condition are not difficult to interpret. But not all cases are classical. Some of the finer points in connection with ureteral calculi are discussed by Dr. Charles C. Higgins on page ________301

SULFADIAZINE is not a new drug by now in the light of rapid chemotherapeutic developments. However, its therapeutic applications bear review. The Journal is pleased to present a discussion on sulfadiazine by Dr. Lynn T. Hall of Omaha, Chairman of the Department of Therapeutics at the University of Nebraska College of Medicine, on page_309

HYPERTHYROIDISM or nervousness—the two go together at times. Borderline cases offer much difficulty in arriving at a comprehensive interpretation of symptoms. Dr. Herbert Davis discusses the problem on page________311

VITAMIN K is becoming almost a routine drug administered during or immediately preceding labor. The value of this vitamin in obstetrics is discussed by Dr. Earl Sage on page________314

FEVER THERAPY is becoming of age. It has been in use now for several years in neuropsychiatry. Now Dr. A. E. Bennett, one of the pioneers in this form of therapy discusses the application of fever therapy to neurosyphilis on page________317

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Sulfadiazine

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Since Domagk gave sulfanilamide to the medical world as a new chemotherapeutic agent, over 1,200 sulfonamides have been synthesized, and their toxicity and therapeutic effects have been studied. One of the newest and apparently the most effective of these compounds is sulfadiazine. This compound was synthesized by Roblin, Williams, Winnek, and English(1) in 1940, and is the name given to 2-sulfanilamidopyrimidine.

Recent reports by Feinstone, et al(2), on its chemotherapeutic effects and toxicity indicate that the compound has a high activity in experimental infections of mice due to pneumococcus, streptococcus, staphylococcus, Friedlanders B, infections of Clostridium welchii and Clostridium septique, meningitis, infections of the urianry tract particularly those due to Escherichia coli, and gonococcic arthritis. Kleinfelter(3) stated that sulfadiazine was the most effective of the sulfonamide compounds treating experimental colon bacillus infections in mice. Neter(4) demonstrated that sulfadiazine might delay the secondary growth of S. dysenteriae and E. coli in broth containing bacteriophage.

The absorption and excretion of sulfadiazine in man have been investigated by Reinhold, Flippin, Schwartz, and Domm(5); Peterson, Strauss, Taylor, and Finland(6); and Sadusk and Tredway(7). Although the opinions of these men are not in entire accord they do agree, however, that sulfadiazine is promptly absorbed, less easily acetylated and more slowly excreted than other sulfonamides.

The blood concentration of the free form is comparatively higher than that of either sulfapyridine or sulfathiazole. The levels of sulfadiazine in the cerebrospinal fluid is higher than that obtained when giving sulfathiazole in the same dosage. The drug passes readily into the spinal fluid, like sulfapyridine and unlike sulfathiazole. Various observers have reported 2/3 to 3/4 of the concentration in the blood simultaneously in the spinal fluid. The concentration of the drug in pleural, pericardial and ascitic fluids is near that noted in the blood at the same time. This drug is excreted through the urinary tract, and 25 to 30 per cent may be recovered in the conjugated form—crystals of the acetylated drug.

The toxic effects reported to date by all observers of patients receiving this drug have been mild and infrequent. Nausea and vomiting occurred in less than 10 per cent of the cases, and nitrogen retention in 5 per cent. Transient leucopenia at times has been noted. Morbilliform eruptions in a few cases have appeared after taking the drug for a week. Renal colic, hematuria and anuria have all been relieved by ureteral lavage. Patients with demonstrable renal and hepatic damage have been treated with sulfadiazine without further impairment and some showed actual improvement. Microscopic sections of tissues of mice at autopsy after sulfadiazine had been given showed that deleterious effects on tissues in the urinary tract were strikingly less than when other sulfonamides were given. Untoward symptoms such as nausea and vomiting, skin rash, hematuria, leucopenia, and headache and dizziness occasionally occur in patients treated with sulfadiazine, but they are much less frequent than with sulfanilamide, sulfapyridine, or sulfathiazole.

The doses have varied somewhat as employed by different clinicians. However, the generally accepted procedure at this time is to give an initial dose of two to four grams by mouth and subsequent doses of one gram repeated every four to six hours. In desperate cases in which immediate therapy is indicated, the soluble sodium salt of sulfadiazine in a five per cent solution may be injected intravenously in the amount of two to three grams. With patients who have tortuous or inconspicuous veins, fat arms, or who are comatose and restless, in children and old people, it has been found effective and safe to give a 33 per cent solution of sodium salt of sulfa drugs into the muscles(8). There are many technical advantages to the use of this route, which become the more apparent when the patient is vomiting, comatose, and has poor veins. The solutions of sulfonamides for parenteral use all have a very high Ph. The 33⅓ per cent solution has a Ph of 11.5, and the greatest of care should be exercised when giving the solution into either a vessel or into a muscle. Any extravasation of the drug about a vessel or into a needle tract may cause sloughing. It has been noted that following intramuscular injections of sodium sulfadiazine the blood levels have remained higher for a longer period than by the other routes. This observation has prompted the extension of the interval between doses. By this means less toxic effects have been noted with no sacrifice of the therapeutic gains.

While at this moment over 1,250 "sulfa" drugs have been studied and sulfadiazine appears to have many advantages, it may be recalled that a similar position was held by sulfanilamide, sulfapyridine, and sulfathiazole in succeeding waves of enthusiasm but a few years ago.

While many clinical reports to date have shown sulfadiazine to be effective, it should be pointed out that there seems to be little justification for its use in diseases against which the etiologic factor is unknown or unmodified by the drug. Diseases apparently unaffected by all sulfonamides to date are: Rheumatic fever, chorea, common colds, influenza, poliomyelitis, small pox, Hodgkins disease, syphilis, tuberculosis, lupus erythematosus, trichomonas, malaria, Rocky Mountain fever, pemphigus, and subacute bacterial endocarditis. It is most encouraging, however, to notice the increasing number of diseases which are added almost hourly to the list of those modified or cured by sulfadiazine. All types of pneumococcus, pneumonia, Friedlander infection, staphylococcic and streptococcic pneumonia have been favorably treated. Local application of sulfadiazine or a solution of its sodium salt used as an antiseptic or as a prophylactic is as effective if not more so, than with other sulfonamides, and apparently much less toxic and locally irritant.

The literature of the recent year supports the impression that sulfadiazine is an important improvement in chemotherapy and is today the most effective and least toxic of the sulfa drugs.

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Tumor of Adrenal Cortex in a Girl of Fifteen Months

Parents noted enlarging adbomen and growth of pubic hair at age of six months. General growth and development was increased over normal so that the child appeared at least a year older than her actual age. Facies coarse and hair on body and face followed male distribution. Clitoris hypertrophied to resemble a penis. Tumor of left adrenal weighing 520 grams removed, death from surgical shock.

Pathological diagnosis—carcinoma of adrenal cortex with masculinization.—Rockwell M. Kempton, M. D., and Oliver W. Lohr, M. D., Saginaw, Mich. Michigan State Med. Jour. for August, 1942.

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Borderline Hyperthyroidism, Or Is It Just Nervousness?*

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What shall we do for the nervous patient complaining of a swelling and choking sensation in the throat? These symptoms may be caused by a neurosis; on the other hand they may be the result of a toxic goiter. A thyroidectomy for a neurosis is not only an unnecessary operation but also may make the condition worse and increase the complaint of discomfort in the neck. On the other hand, psychiatric treatment will not cure a toxic goiter but will increase the period of invalidism and allow the thyrotoxicosis to get progressively worse. In about one case out of five suspected of hyperthyroidism, there is no involvement of the thyroid. Therefore, a proper evaluation of this difficult problem is very important as well as very difficult.

The diagnosis of a typical case of exophthalmic goiter with the cardinal signs of thyroid enlargement, tachycardia, exophthalmus. and fine tremor is simple. Hyperthyroidism may exist, however, with any of these signs difficult to detect.

Heart palpitation, a moist warm skin, prominence of the eyes, tremor of the fingers, nervousness. and a fullness of the neck do not necessarily indicate toxic goiter. In fact these symptoms and a sensation of constriction in the neck are characteristic of neurasthenia, neurocirculatory asthenia, and nervous exhaustion. The metabolic test is subject to many sources of error.

In this discussion we shall consider the differential diagnosis of borderline hyperthyroidism under four headings: History, physical examination, laboratory findings, and tests of treatment.

The family history should be elicited to see if other members of the family are nervous or constitutionally inferior and to see if the patient has been nervous all her life or whether this has been a recent development without apparent cause. Nervousness that manifests itself in paroxysms and is not continuous is rarely hyperthyroidism. Palpitation of the heart may occur in either condition but is much more constant in hyperthyroidism.

I—HISTORY

Neurasthenia	Hyperthyroidism
Constitutional inferiority	Previously strong
A cause for nervousness	Fairly recent nervousness with no apparent cause
Palpitation	Palpitation
Lack of well-being	Good spirits
Diminished appetite	Increased appetite
Weight unchanged but may be loss	Weight loss
Often pressure sensation in throat	Rarely pressure sensation in throat unless substernal goiter
Chilly sensation	Sense of warmth
Fatigue usual	Fatigue at times
Weakness but not especially of quadriceps	Quadriceps weakness

The neurotic patient is discouraged and feels sick, while the hyperthyroid individual is usually in good spirits, very active, alert, and constantly on the move. Loss of weight may occur in either condition, but it does not indicate hyperthyroidism unless accomplanied by at least a fair appetite.

Many patients are diagnosed goiter because of a pressure sensation in the throat. This symptom rarely occurs in goiter unless there is substernal involvement. On the contrary, it is a very common symptom in the neurotic patient. The neurotic patient is likely to feel cold, to complain of cold hands and feet, and to need a warmer room and more bedcovers than the normal individual. On the contrary, thyrotoxicosis causes a sense of warmth, an aversion to hot weather, a desire for a cool room and fewer bedcovers, and a sensation of warmth to the hands and feet. They feel warm all the time and not alternately warm and cold as is common in the neurotic patient.

Fatigue is common in both conditions. However, the neuotic individual never feels like doing much and is constantly tired, while the hyperthyroid patient is likely to over-do and because of that become fatigued. The weakness, instead of being general, is most marked in the quadriceps muscles in hyperthyroidism. It is especially noticeable in going upstairs.

In taking a careful history, many points can be brought out of great value in the differential diagnosis between these conditions.

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*Read before the Omaha Mid-West Clinical Society, Omaha, Nebr., October 30, 1941.

II—PHYSICAL EXAMINATION

Neurasthenia	Hyperthyroidism
No goiter	Goiter
No thrill or bruit	Thrill and bruit
Tachycardia when nervous	Tachycardia more constant
Pulse pressure often diminished	Pulse pressure increased
Fine tremor at times	Usually fine tremor
Hands and feet cold and moist	Hands and feet warm

The most important single finding in hyperthyroidism is a palpable enlargement of the thyroid gland or evidence of activity such as firmness, bruit, or pulsation. A normal thyroid is very commonly not palpable. It may be felt, however, in very thin people. Examination of an enlarged thyroid should not be confined to placing the physician's hand over it. To palpate a lobe of the thyroid gland, place the thumb on the opposite side of the neck and push the trachea and gland to the side to be palpated. Then place the fingers of the other hand behind the sternomastoid muscle to feel the posterior part of the gland, and place the thumb over the anterior part. You should also at that time ask the patient to swallow to bring up the inferior pole. The contour, size, consistency, and irregularities in its surface should be noted. Hyperthyroidism might exist without a palpable thyroid. Extreme caution should be used in making this diagnosis in such a case. If a thrill and bruit are felt, hyperthyroidism is rather likely.

Tachycardia may be present in either case, but it is quite constant in hyperthyroidism and more likely to occur in the neurotic individual when something happens to make her nervous, such as the examination. The pulse rate during sleep and at complete rest is as a rule more accelerated in hyperthyroidism than in other diseases. Since the oxidations are execessive even when the individual is resting, the heart must beat faster in order to supply the tissues with blood. An unsuspected thyrotoxicosis may cause cardiac decompensation. The pulse in neurosis is rather weak, often with a low systolic pressure, while in the hyperthyroid patient it is usually bounding and the pulse pressure is increased. The outstretched hand should be examined for tremor. This sign may occur in either case, but in hyperthyroidism it is more likely to be a fine tremor and a more constant one. The temperature of the hands and feed should be noted. If they are cold, hyperthyroidism is unlikely. Dry skin is rarely seen in hyperthyroidism. A moist skin may be found in either condition.

III—LABORATORY TESTS

Neurasthenia	Hyperthyroidism
B. M. R. Normal (if rechecked)	B. M. R. increased
Blood cholesterol normal (150-250 mg.%)	Blood cholesterol decreased
Blood iodine normal (0.012 mg.%)	Blood iodine increased

The basal metabolic rate is the most commonly used test for thyroid activity. It must be realized, however, that there are many errors in its determination and interpretation. In borderline hyperthyroidism several determinations should be made. The patient should be at rest before each examination. It should be remembered that basal metabolic determination is never too low except when a technical error is made, when an inward leak in the apparatus occurs, or when the subject goes to sleep. Other factors besides hyperthyroidism that may cause an increased reading are nervousness on the part of the patient, failure to rest properly, food, fever, etc. It may be elevated in leukemias, hyperadrenalism, polycythemia, etc. A single very low reading has much more significance than a single high one. An elevated rate should not be considered significant unless it can be shown to persist. However, if there are no errors in technique, an elevated basal metabolic rate strongly suggests hyperthyroidism. On the other hand, genuine hyperthyroidism may exist with a basal metabolic rate of plus ten, since the patient may have had a very low rate as normal before the thyrotoxicosis began. If a high reading does not coincide with the clinical symptoms, the test should be repeated several times.

Another laboratory test of importance is the blood cholesterol determination. The normal is 150 to 250 mg. per 100 cc. This varies inversely with the degree of activity of the thyroid; in other words, it is decreased in hyperthyroidism and is increased in hypothyroidism.

Blood iodine determinations are of no practical value for most of us. The determinations are too technical and have many sources of error. On the other hand, they may help if the chemist has made a very special study of this procedure, as has been done in only a few places. Normal blood iodine is 0.012 mg. per 100 cc. It may be increased in hyperthyroidism. Its decrease in definite hyperthyroidism may be a danger signal.

IV—TEST OF TREATMENT

Neurasthenia	Hyperthyroidism
No response to iodine medication	Improvement on iodine medication
Often improvement on nothing more than change of surroundings	No improvement on change of surroundings alone

If still doubtful, observe without medication.

There are instances in which the diagnosis is doubtful even after getting a careful history, physical examination, and laboratory checkup. Such cases require the most careful study. A rest may improve a neurosis as well as a thyrotoxicosis. In the neurotic individual the improvement will likely be quicker and more marked on change of surroundings and getting away from family and worries, and the symptoms will recur more quickly if the old life is resumed. The response to iodine medication is a very good guide. However, if iodine medication is given at the same time a person takes a vacation or rest, it is difficult to know which causes the improvement. Therefore, it is much better to try either the vacation or rest first and then the iodine after the response has been determined. If time or expense prevent the patient from resting, the iodine should be given without changing the manner of living at all. The response to iodine should occur in seven to ten days. It should be noted by improvement in the patient's symptoms, appearance, and laboratory tests.

In elderly people hyperthyroidism is sometimes overlooked as it may be very difficult to recognize. The symptoms may be very atypical and not seem to be at all referable to the thyroid. However, in most of these cases the outstanding symptoms are weight loss, heart palpitation, increased nervousness, and myasthenia. Less commonly are dyspnoea, a sense of pressure in the neck and in the front of the chest, increased sensation of warmth, trembling of the leg muscles and hands, oedema of the ankles, and irregular heart action. Weight loss in an elderly person is a significant symptom and in about one-half of these cases is the chief complaint. Palpitation is about equally important. Tachycardia, auricular fibrillation, and symptoms of heart failure in a patient who has not previously had organic heart disease should make one suspect thyrotoxicosis. The basal metabolic rate is not likely to be as high as in younger people. It may be normal or only slightly elevated in aged patients who are ill with thyrotoxicosis. One of the most constant findings in these cases is persistent tachycardia.

The effort of this discussion has been to point out the difficulty of diagnosis in borderline cases and the extreme care required to avoid serious mistakes in their management. The decision of whether or not to operate on borderline cases is the most difficult problem involved in their treatment. Much more judgment is required than in the treatment of definite hyperthyroidism.

* * *

The Use and Abuse of the Barbiturates

The laity knows too much about the action of the barbiturates as sedatives, therefore a law should be enacted in every state prohibiting the sale of these drugs over the counter. Also to prevent abuse of his prescription, the practicing physician should forbid the refilling of it.

It is an excellent drug for inhibiting convulsions as in strychnine poisoning, tetanus, and status epilepticus. Pediatricians use phenobarbital to allay spasms in children and to quiet a fretful crying baby. In such practice there is certainly a misuse of this drug.

The average dose used to produce sleep does not depress the respiration, but large doses especially such as may produce poisoning, cause death by respiratory failure. Overdoses of barbiturates affect the secretion of urine directly through the circulation, causing an oliguria and anuria. Since urine is the most important avenue for the excretion of these drugs, an anuria delays recovery.

Those destroyed by the liver are the short acting barbiturates. It is known that individuals with impaired hepatic function have remained deeply anesthetized for long periods of time from a hypnotic dose of evipal, which in a normal person would cause an anesthesia for only fifteen minutes. Consequently we are warned that barbiturates which depend upon the rapid destruction by the liver for their short action, should not be given to individuals with hepatic disease. Barbiturates should not be given in carbon tetrachloride poisoning, as this solvent itself damages the organ and it is adding insult to injury in this case because an impaired liver is unable to detoxify these drugs as efficiently as when normal.

The therapeutic dose does not cause death, but when fifteen times the ordinary hypnotic dose has been absorbed, the patient's life is in danger. In acute barital poisoning, nothing characteristic is seen grossly at the postmortem.—William D. McNally, M. D., Chicago. August, 1942 issue of Michigan State Med. Jour.

The Clinical Evaluation of Vitamin K in Obstetrics

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In 1935, Quick (Marquette University) reported that clinical jaundice was frequently accompanied by a hypoprothrombinemia and described a test for the quantitive estimation of prothrombin. The recognition that the specific biochemical lesion in vitamin K deficiency was a depletion of blood prothrombin was an important phase in these investigations. The use of vitamin K in obstructive jaundice was first proposed on theoretical grounds by Quick though he made no clinical application of his theory.

Some of the earliest reports of the actual clinical application of vitamin K to prevent or stop bleeding accompanying obstructive jaundice came from Warner and his co-workers (University of Iowa) and from the Mayo Clinic in 1938, by Butt, Snell and Obsterberg.

In August, 1939, Doisey of St. Louis University and his associates isolated two pure antihemorrhagic factors, vitamin K_1 from alfalfa, and vitamin K_2 from putrified fish meal.

Almost simultaneously Fieser and his associates at Harvard, and Almquist and Klose at the University of California, isolated and synthesized vitamin K_1, so this work gave new impetus to the clinical evaluation of the antihemorrhagic activity of synthetic vitamin K in hypoprothrombinemia. It is to be noted that the isolation and synthesis of vitamin K was accomplished in less than five years after its discovery.

THE PROTHROMBIN CONTENT OF THE BLOOD OF NEWBORN INFANTS

In 1937, Brinkhaus, Smith and Warner reported that for normally newborn infants the prothrombin values vary from 14 to 34 per cent of the level found for normal adults, while in a case of hemorrhagic disease the prothrombin level is extremely low. With this work in mind it seemed logical to Waddell and Guerry (University of Virginia), to consider that vitamin K, which so materially affects the prothrombin level in jaundiced patients, might conceivably be effective in raising the prothrombin content of the newly born infant's blood, thus preventing either spontaneous hemorrhage or that initiated by the trauma of labor. In June, 1939, they studied 20 infants with special reference to the occurrence of unnatural bleeding. These infants were divided into two groups of 10 each, one group serving as controls. The infants receiving no vitamin K therapy were found to show a prolonged prothrombin clotting time between the ages of 48 and 72 hours, whereas in those receiving the treatment, the prothrombin clotting time was consistently shorter. They suggested that vitamin K be administered to the mother before and after the onset of labor to determine whether the prothrombin clotting time and the blood clotting time of the infant could be lowered.

Just a few months later (Nov. 1939) Shettles, Delfs and Hellman, (Johns Hopkins) reported that the plasma prothrombin level of the newborn infant can be raised not only by feeding vitamin K directly to the infant after birth but also by administering it to the mother prior to delivery. In fact, the prothrombin levels of newborn infants produced by the administration of the drug to mothers were often three times as high as levels usually seen when the vitamin K had been given directly to the infant. By the early part of May, 1940, Hellman and Shettles administered vitamin K to more than 700 expectant mothers with gratifying results and with no ill effects encountered either by mother or child. They found that the babies born of mothers who had received vitamin K in labor, showed one-half the iincidence of retinal hemorrhage observed in infants whose mothers had not been so treated. The intrapartum administration of vitamin K reduced the incidence of retinal hemorrhage from the usual figure of 30 per cent to 15 per cent, while the antepartum employment of this vitamin reduced this figure to ½ percent. The analysis of 700 control cases showed a total infant mortality of 4.9 per cent, while the corresponding mortality in infants of mothers who had received vitamin K was 1.8 per cent. Cerebral hemorrhage was a common cause of death in the control group; rare in the vitamin K group.

In the latter part of 1939, Bohlender, Rosenbaum and Sage administered intravenously 1 mgm. of a water soluble vitamin K preparation to the mother before or just after the onset of labor. Synkamin was given to 50 mothers and the prothrombin readings made by the Quick method were determined on the infants. The same prothrombin determinations were taken from the cord blood at the birth, and on the second, third, fourth, sixth and eighth days, using 50 infants as controls whose mothers had not received vitamin K. There was a definite rise in the prothrombin time of infants whose mothers did not receive the vitamin K before delivery, the average rise being 40.62 seconds during the first 4 days. In the treated infants the average rise above birth level was 1.86 seconds. We concluded that vitamin K administered intravenously to the mother before delivery effectively prevents prothrombin deficiency in the newborn infants and probably serves to check any bleeding tendency and render harmless a slow, oozing hemorrhage. Our study showed that irrespective of the time that the Vitamin K was administered to the mothers by the intravenous route, whether 5 minutes or 24 hours before delivery, the infant's cord prothrombin times were practically identical.

It has been shown by many workers that all newborn infants have low prothrombin readings between the 2nd and the 6th days after birth.

There is a sound therapeutic basis for administering vitamin K to prevent hemorrhagic disease of the newborn. Recent plasma prothrombin studies have given us a new conception of hemorrhagic diathesis of the newborn, which is really a hypoprothrombinemia which all newborn infants exhibit to a certain extent and in various gradations. In answer to the question "To what extent will the routine antenatal administration of vitamin K diminish hemorrhage in the newborn and thereby reduce neonatal mortality?" Hellman, Shettles and Eastman state that such a practice properly timed and with suitable dosage, will well-nigh eliminate so-called hemorrhagic disease of the newborn. The evidence presented would seem of sufficient promise to warrant recommending the routine antenatal administration of vitamin K for trial."

No observer has noted any harm either to mother or baby from therapeutic doses of vitamin K administered either to mother or child. Because this vitamin is so effective in small doses and is easily administered intravenously to the infant by way of the maternal blood stream, and because it is not toxic, vitamin K may be employed routinely as a prophylactic measure. It should always be given, (1) when premature delivery is expected; (2) if labor is prolonged, and (3) if operative delivery of any type is anticipated.

It is well to remember, however, that vitamin K will never be a substitute for obstetric skill and gentleness in manipulation and handling of the newborn. In regard to cerebral bleeding, it is clear that vitamin K will have little or no effect if the tentorium is torn or a large cerebral or meningeal artery is severed.

Hemorrhagic disease of the newborn is due to prothrombin deficiency. A rational explanation for this tendency of the newborn to bleed was advanced in 1937 by Brinkhaus, Smith and Warner, who showed that the plasma prothrombin level of babies at birth is exceedingly low, ranging from 14 to 39 per cent of the adult value. It was found that vitamin K administered to the mothers before delivery is capable of raising the low prothrombin level of these infants. The relationship of vitamin K to hemorrhagic disease of the newborn is now well established. The additional reports of Waddell, Guerry, Bray and Kelley; of Nygaard, Quick and Grossman; Hellman, Shettles and Eastman; Poncher and Kato; Huber and Shrader; Bohlender, Rosenbaum and Sage, leave little doubt that hemorrhagic disease of the newborn is a hypoprothrombinemia and that the administration of vitamin K is a specific therapeutic measure. Many investigators feel that the routine antenatal administration of vitamin K will practically eliminate this condition.

Without undue enthusiasm it may be stated that vitamin K may well prove to be a life saver for from 30,000 to 80,000 American babies annually.

Vitamin K is not a panacea for all hemorrhages. If the trauma of labor has been severe enough to rupture one or more blood vessels in the infant's brain, vitamin K will not save that life. In a case of any difficult delivery in which the baby may have sustained cranial injury, vitamin K should be promptly administered either orally or hypodermatically. If an emergency operation has to be done on a newborn baby, vitamin K must be a part of the preoperative treatment. The dosage administered to infants by Huber and Shrader was 1 mg. thyloquinone 6 hours and 30 hours after birth. They gave 4 mg. of thyloquinone in capsules to the mother upon admission to the labor room and this dosage was effective in preventing a drop in prothrombin levels during the monatal period. We found this to be true when 1 mgm. of Synkamin was given to the mother intravenously before delivery.

Sanford and his co-workers (Rush) reported in February, 1942, that they were unable to show that hemorrhagic manifestations in the newborn were either associated with prothrombin deficiency, or lessened by the administration of vitamin K. They found no difference in the incidence of cerebral hemorrhage in the vitamin K treated infants and the untreated infants. Quick made this reply to their report: "It may be surmised that these workers are doubtful concerning the efficacy of vitamin K in prevention of the hemorrhagic disease of the newborn. If the aim of Dr. Sanford and his associates in presenting their paper is to emphasize that hemorrhages in the newborn may occur from causes other than prothrombin deficiency, they are serving a laudable purpose; but, if they are attempting to depreciate the value of vitamin K in preventing and curing the hemorrhagic disease of the newborn, one is forced for the sake of the newborn baby to take sharp issue with them."

CONCLUSIONS

1. There is a sound therapeutic basis for administering vitamin K in the prevention of hemorrhagic disease in the newborn.

2. No ill effects have been observed in mother or infant from therapeutic doses of vitamin K.

3. Routine prenatal administration, as a prophylactic measure in the prevention of prothrombin deficiency in the newborn, is advisable, particularly if dystocia is anticipated.

4. Vitamin K is not expected to control hemorrhage from lacerations of the tentorium or a large meningeal artery; nor is this therapeutic measure to be considered a substitute for obstetric skill and gentleness in manipulation.

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The administration of vitamin K to the mother while she is in labor will prevent the depression of the prothrombin level of the newborn and should prove effective in lowering the incidence of hemorrhage of the newborn, J. E. Fitzgerald, M. D., and Augusta Webster, M. D., Chicago, declare in the August 1 issue of The Journal of the American Medical Association. "It is well known," they say, "that various types of hemorrhage in the newborn account for a considerable percentage of stillbirths and neonatal deaths. . . ."

They found that "in none of the 641 babies whose mothers had vitamin K during labor was there any evidence of neonatal hemorrhage." Administration of vitamin K (by injection into a muscle) to babies with hemorrhage resulted in a strong increase in the prothrombin level and prompt cessation of bleeding.

In their conclusions they say that "There is a normal depression of the prothrombin level of the newborn from the second to the fifth day. This depression is much greater when certain analgesics are administered to the mother during labor . . . It seems particularly desirable that vitamin K should be administered when barbiturate analgesics are used."

The Present Status of Fever Therapy in Neurosyphilis*

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Malarial inoculation as a means of fever therapy introduced in 1917 by Wagner-Jauregg is still the most widely used treatment of general paresis. This is essentially a foreign protein reaction, the protein being set free in the blood stream during the segmentation of the plasmodium. In spite of the belief that malaria has a specific reaction against spirochetes there is no proof that its therapeutic effectiveness is due to more than the fever induction.

Many other foreign protein methods such as typhoid vaccine, other mixed bacterins, pyrogens, tuberculin, sulphur in oil, milk, rat bite fever and relapsing fever produce equally good results if high temperatures are induced. Early cases of general paresis obtain good remissions in 35 per cent of cases by malarial therapy. It has many objectionable features: An average worldwide mortality of 7.5 per cent, high morbidity, prolonged hospitalization costs, difficulty in managing the amount of fever so that premature termination is at times required, unsafe and ineffective results in other types of neurosyphilis, paresis with complications, tabes dorsalis and meningovascular forms.

Wagner-Jauregg(1) just prior to his death critically appraised results with malaria. He agreed that physical heat therapy gave equally good results and pointed out some of the advantages such as regulation of temperatures and safety.

Bessemans(2), 15 years ago first proved and later others agreed that fever of any source sustained at 105-106 degrees destroyed spirochetes in local lesions and markedly inhibited their growth in systemic lesions. Furthermore, fever combined with chemotherapy was shown to be more effective in destroying the parasites than either method alone.

The Committee on Non-Specific Therapy of Syphilis, U. S. P. H. S.(3) after a four year study upon the relative merits of malaria vs. artificial fever, reported August, 1940, upon 1,420 patients, (1,100 treated by malaria and 320 by artificial fever). The total death rate computed 3 months after treatment, from malaria was 13 per cent and from artificial fever 8 per cent. In mild paresis no immediate deaths resulted from artificial fever but 4 from malaria; 2.3 per cent of mild cases of paresis died within 3 months from either method. In intermediate paresis, the mortality after 3 months treatment was 9.4 per cent from malaria, 6.5 per cent from artificial fever therapy. In severe paresis, 25.8 per cent died following malaria and 17.9 per cent from artificial fever.

Ninety per cent of successful results occur by the end of 3 years by either method. If clinical improvement is delayed beyond the second year, remissions do not occur. Once clinical remission is obtained there is a 95 per cent chance it will be maintained by either method.

Serologic reversals of blood and spinal fluid are about the same with malaria and artificial fever. The reversal is dependent upon the amount of auxiliary chemotherapy used.

The conclusions of the Cooperative Clinical Study were that both forms of treatment show over 50 per cent improvement in mild paresis and about 20 per cent improvement in intermediate paresis. However, in severe paresis malaria is ineffectual since only 1 per cent improve compared with 10 per cent of remissions with artificial fever therapy. Yet the actual percentages were higher in all groups with artificial fever as compared with malaria.

Since 1934 we have used artificial fever therapy in preference to malarial therapy in all types of neurosyphilis. At the present time practically all neurosyphilis in public and private hospitals in Nebraska is treated with artificial fever.

In our private series, 50 cases of general paresis followed over 3 years, 82 per cent were mild or intermediate types, 18 per cent severe types. After three years full remission was sustained in 28 or 56 per cent, 17 or 34 per cent improved, 3 or 6 per cent were unimproved and 2 or 4 per cent died. Followup serology in this group showed 34 per cent with negative blood studies, 63 per cent with complete spinal fluid reversal and 76 per cent were less positive.

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*From the department of Fever Therapy Research, University of Nebraska College of Medicine and the Bishop Clarkson Memorial Hospital, Omaha, Nebr. Presented at the Fifth Post-Graduate Institute of Psychiatric Education, St. Joseph, Mo., March 30, 1942.

In our state hospital series of 79 cases of general paresis, 37 or 47.3 per cent were mild or intermediate types, 42 or 52.2 per cent were graded as severe types, 3 were juvenile paretics. Many of these were malarial failures. In this group, followed for 3 years, full remission was obtained in 15 or 19 per cent, 26 or 32.9 per cent improved, 31 or 40.7 per cent were unimproved and 7 or 7.9 per cent died within 3 months after treatment. This chronic committed group of patients cannot fairly be compared with the private series because in the private cases 82 per cent were mild or intermediate types.

The serologic reversals in the state hospital group were likewise less striking than the private series. After three years 15 per cent showed complete blood reversals and 42 per cent had spinal fluid reversals with 63 per cent spinal fluids less positive. The private series received more vigorous sustained followup chemotherapy which undoubtedly is a factor in the higher percentage of reversals.

From the beginning of our studies we have been interested in treating patients who had previously received malaria without obtaining full remissions. Of our cases, 24 patients had had previous malarial therapy; of these, 13 had been somewhat improved by malaria and were graded as mild or intermediate types, while 11 were graded as severe. After combined artificial fever and chemotherapy, 29 per cent obtained full remission and 29 per cent improved, 42 per cent were unimproved or progressed. From our experience we feel that any patient, particularly with mild or intermediate paresis, who fails to obtain a full remission should have an adequate course of artificial fever and chemotherapy.

For the past two years we have followed all of our cases of suspected or definite paretic patients with electroencephalographic studies(4) before and after treatment. In acute paresis the electroencephalogram is invariably abnormal, distinguished by diffuse, marked involvement of the alpha rhythm and the appearance of many slow potentials. If a clinical remission is obtained the record tends to return to near normal after treatment. In some cases of asymptomatic neurosyphilis with strong positive fluids but no clinical signs of paresis, we find abnormal records that may indicate the earliest manifestations of paresis we have yet found. In treatment failures the records remain abnormal in the large majority of cases; a low voltage record, fast activity, frequent slow potentials with greatest changes in the frontal leads. We feel that electroencephalographic studies are a valuable guide in studying the progress of paresis under therapy. They also disclose convulsive tendencies. Whether the electroencephalogram can be used for early diagnosis or prognosis can only be determined by future investigation.

In other forms of neurosyphilis artificial fever therapy has proved to be the treatment of choice. It is now generally recognized that the most opportune time to treat neurosyphilis with fever-chemotherapy is when the disease is first recognized in its asymptomatic phase. Early spinal fluid studies during early stages of the disease reveal abnormal fluid in 33 per cent of patients with early syphilis, in 56 per cent of patients with late syphilis and in 75 per cent of patients with so-called Wasserman-fast or sero-resistant syphilis. Many of these cases progress to active clinical neurosyphilis in spite of continuous vigorous chemotherapy. In the light of our excellent experience with fever therapy in this group we recommend early fever therapy as an adequate preventive of active neurosyphilis.

Fifteen cases of resistant asymptomatic neurosyphilis with sero-resistant blood tests and paretic formulae in the spinal fluid were given fever therapy. Practically all had had years of previous chemotherapy, the average duration of infection was 12 years. After 30 to 50 hours of combined arsenical and fever therapy, 46 per cent had negative blood tests and an additional 20 per cent were less positive; the spinal fluids were reversed to negative in 73.3 per cent and 20 per cent more became less positive. In only one patient was the spinal fluid unimproved and this case had an inadequate amount of fever. Here we believe the results are far superior to malaria and absolutely without the hazards and economic loss caused by malarial illness. None of these patients were taken from active occupation while under treatment.

TABES DORSALIS

Thirty-five patients were severe tabetic symptoms have been treated. Many were failures from numerous previous therapeutic efforts; 7 were malarial failures. Almost one-half were the so-called burned out sero-negative types notoriously unresponsive to treatment. Neuritic pains, present in 29 of 35 cases, were entirely relieved in 13 of the patients and significantly improved in 12, with only 4 unaffected. Gastric crises of varying severity were present in 15, half of whom were disabled by this symptom, three were morphine addicts. Eleven received complete or partial relief; several were relatively elderly debilitated patients who could not have been safely treated otherwise. Early ataxic patients can be improved greatly but the advanced stages are unaffected. In no instance was Charcot joint improved. Urinary incontinence was present in 8 patients; of these, 5 obtained some degree of improvement. Many of our striking results were obtained in the "burned out" sero-negative cases.

MENINGOVASCULAR NEUROSYPHILIS

Fifteen patients, 10 of whom had not responded to previous chemotherapy were benefited by artificial fever. The majority of these were seriously ill patients aged from 23 to 60 years with complicating vascular disorders such as aortitis and hypertension. The entire group presented disabling neurologic symptoms and findings. Many were difficult to carry through fever therapy. At least one-half could not have withstood malarial therapy. Six patients had hemiparetic features, 4 had palsies of the cranial nerves, 4 had aphasia, convulsive and confusional psychotic reactions, 3 had chronic headaches associated with increased intracranial pressure and meningitic phenomena, 1 had a multiple sclerosis-like syndrome. Prompt and striking relief was obtained in the large majority of cases; except for one hemiplegic and one convulsive state, all were practically rid of complaining symptoms.

CONGENITAL SYPHILIS

We have treated in our private series and state hospital groups nine cases of juvenile paresis. While the results in these cases are not striking all other forms of therapy have been notorious failures. We have prevented blindness resulting from progressive optic atrophy, improved hemiparetic features and improved sensorium reactions in several patients. Convulsive manifestations have not improved with treatment. Artificial fever with chemotherapy is the only treatment that offers any help for these unfortunates.

OCULAR SYPHILIS

Our experience has not been as large as others, particularly Simpson's(5), but the results have been gratifying. All of our cases had failed to improve satisfactorily upon previous chemotherapy. Cases of interstitial keratitis and extra-ocular palsies have responded well; optic atrophy cases have been arrested and blindness prevented. We believe all cass of ocular syphilis should be given early fever therapy and no one is justified in running the risk of failure by using chemotherapy alone.

We have used along with artificial fever a variety of arsenical compounds in our various groups. At first we employed arsenic alone, giving the intravenous injection when the patient's temperature reached 105 degrees. Later, we adopted the present technic of giving bismuth salicylate, .2 grams intramuscularly just prior to fever and the arsenical at the height of fever. In the general paretic group we have used either mapharsen or aldersone; in the asymptomatic group, mapharsen; with the meningovascular and tabetic patients, either mapharsen or bismarsen. We have used very little tryparsamide because this drug was being tried extensively in other fever therapy departments and we believed the clinical results and reversals did not vary appreciably regardless of the type of arsenical employed. The fever therapy is administered by the Kettering Hypertherm; 12 to 15 sessions of 3 hours each at 105 to 106 degrees, given every 3 to 4 days.

These facts prove the extreme value of fever therapy in all forms of resistant syphilis, especially neurosyphilis. The controversy over the relative merits of different methods should end. Each type has a place in modern therapeutics. Malaria is cheaper unless one counts the cost of hospitalization and loss of income, since with artificial fever many can be treated without interruption of employment. The cost of apparatus for fever therapy is not high and the equipment lasts for years.

Malarial therapy has some advantages in the management of large numbers of patients congregated in under-staffed, under-equipped institutions for the mentally ill. It is significant that artificial fever is now replacing malaria in many mental hospitals. Where this is not possible malarial therapy should still be employed.

The claim that malaria exerts a specific influence apart from fever production has no justification. The results obtained regardless of fever method depend upon the height and duration of fever. To give either malaria or artificial fever requires skill and training. The best results with either method are achieved by those who exercise the greatest diligence and care. The death rate from malaria has declined as workers have become more experienced. Much more important than the type of apparatus in administering artificial fever is the skill of nurses and physicians who administer treatment. This means adequate training of the workers, careful selection of patients for treatment and last, careful choosing of apparatus. In the future, efforts devoted to abolish early syphilis and to get early neurosyphilitic cases under some form of fever and chemotherapy treatment will in the end practically eradicate active disabling clinical neurosyphilis.

SUMMARY

Fever induction by whatever means produces good results in neurosyphilis if sufficient height and duration of fever are induced.

There is no valid reason to assume that malarial therapeutic effectiveness is due to more than the fever induction.

The employment of auxiliary chemotherapy in conjunction with any type of fever therapy is an essential requirement.

The most opportune time to treat neurosyphilis with fever and chemotherapy is when the disease is first recognized in the asymptomatic phase.

Adequate fever and chemotherapy produce over 50 per cent complete clinical remissions in mild paresis and about 20 per cent in intermediate forms.

Physical artificial fever and chemotherapy is superior to other forms in the relief of tabes dorsalis, meningovascular, congenital and ocular syphilis.

Malarial therapy has certain advantages in the management of large numbers of patients congregated in under-staffed, under-equipped institutions.

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* * *

Boric-Butyn-Petrolatum Gauze Treatment of Burns

General treatment of burns consists of the combating of shock, relief of pain, alleviation of fluid, plasma deprivation and optional sulfonamide medication. The local treatment consists of debridement, thorough cleansing, protection of denuded area, application, of antiseptics and local anesthetics. Statistics indicate that regardless of the local treatment, coagulation or otherwise, the mortality rate is unifrom, and that generally the lowered mortality is the result of the general treatment, primarily plasma and whole blood transfusions. Several case histories are presented of patients sustaining second and third degree burns that have been treated with the boric-butyn-petrolatum gauze.

Preparation is made by autoclaving 40 strips of gauze, 3x15 inches, covered by 2 ounces of saturated boric acid, 1 ounce butyn (2 per cent), and sufficient petrolatum to cover. This is applied in strips of 1 layer thickness and a sterile dressing is superimposed. A redressing is done every 2-3 days, washing the burn with tepid saturated boric solution and reapplying the medication.

No extensive conclusions are intended. This prepared gauze shows definite promise of being an efficient preparation.—Kenneth Hughes, M. D., Flint, Michigan. Michigan State Medical Journal, August 1942, page 653.

Carbuncle of the Kidney*

Report of a Case

RICHARD L. EGAN, M. D. and JOHN M. THOMAS, M. D.
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Carbuncle of the kidney is recognized as a not uncommon disease of the adult but its appearance in the child is infrequent. Graves and Parkins(1) found 67 cases reported in the literature and of those cases for which the age was noted three were under one year of age and an additional four were under twelve years of age. Spence and Johnston(2) have collected an additional 36 cases to which Estes(3) has added a review of 25 more cases of the disease. Thus 128 cases have been reported to June 1939. The latter two reviews do not mention the incidence of the disease in children.

This infection is usually due to a member of the coccus group, most frequently the staphylococcus. It is secondary to an infection caused by the same organism elsewhere in the body. It is a unilateral solitary but multilocular lesion, thus differing from the metastatic renal abscesses of a septicemia which are usually multiple and at times bilateral.

Pathologically the lesion of metastatic renal infection may be a small cortical abscess which is the local cause of a perirenal abscess and yet because of its minuteness a kidney lesion may not be evident at the time of surgical drainage.

A more virulent organism and/or a lesser resistance may produce a single large cortical abscess which will produce a clinical picture similar to that of a carbuncle of the kidney.

The third and most characteristic type of this infection is the true carbuncle. An inflammatory area starts deep in the cortex of the kidney. It has a fibrous capsule. It is made up of numerous suppurating foci separated from one another by septa consisting of inflamed and fibrous renal tissue. It resembles a carbuncle of the skin, from which resemblance it derives its name.

The condition is characterized by fever, chill and pain in the renal area but its recognition is rendered difficult, especially for the pediatrician who sees such conditions infrequently, by the dearth of urinary findings. Pyuria is usually absent. Among the so-called "hidden" causes of fever in children, this disease must be considered. Once the diagnosis has been considered, recognition is not difficult if it be remembered that the majority of such cases have a history of a previous primary staphylococcal lesion and if Roentgen examination, with or without intravenous pyelography be employed.

The treatment is considered to be surgical and consists either of drainage of the abscess, excision of the lesion, or nephrectomy.

We are reporting a case occuring in a twelve year old white male. It is of interest because of the difficulty in diagnosis as well as for the unusual family history of the patient.

REPORT OF A CASE

The patient, E. S., age 12, was admitted to the Pediatrics service of St. Catherine's Hospital from the dispensary of The Creighton University School of Medicine with a diagnosis of possible pneumonia. The patient was well until three weeks before admission at which time he noted pain over the right iliac crest without nausea, vomiting, diarrhea, or anorexia.

The pain, which was intermittent, occurred after exertion and responded to rest. Fever was first noted two weeks before hospitalization; abnormal fatigue was a progressive complaint. During the week before admission the child complained of a nasal discharge which was followed by a non-productive cough and chills. He was said at times to appear short of breath.

The past history was uneventful except that the child had always appeared frail and underweight.

The systemic history, aside from the present illness, included only occasional nocturia and occasional burning on urination, apparently not aggravated by the present illness.

The family history revealed the father living but troubled by peptic ulcer. The mother died when 38 years old following a carbuncle. Diabetes mellitus was diagnosed a few days before her death. One sibling died at the age of eight months of pneumonia. One brother has had eight operations for chronic mastoid disease and another brother was said to have had several operations for a similar condition. One brother now 14 years old, at the age of six had a perirenal abscess, which diagnosis was confirmed by reference to the hospital record of the condition. It was stated that the whole family including the patient were subject to frequent boils and styes. The father was the only child of a family of seven children to survive the age of three but the cause of death of his siblings is unknown.

Physical examination revealed a poorly developed, poorly nourished white male who appeared younger than his stated age. The throat was red and injected. Examination of the lungs revealed moist rales persisting in both apices after coughing. Throughout both lung fields were small areas of slightly altered breathing with occasional moist rales. The heart was rapid but otherwise normal. The abdomen was tender in the right upper quadrant and over the right kidney posteriorly. There were no masses or rigidity and neither kidney could be definitely palpated.

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*From the Dept. of Pediatrics, the Creighton University School of Medicine.

Urinalysis showed three leucocytes per high power field in a voided specimen. The erythrocytes numbered 4,200,000 per cubic millimeter and the hemoglobin was 15.2 grams per hundred cubic centimeters. Leucocytes numbered 16,800 per cubic millimeter of which 86 per cent were neutrophiles (64 per cent segmented, and 22 per cent unsegmented cells). Stained smears of the small amount of sputum available were negative for pneumococcal and acid-fast organisms.

The temperature shortly after admission reached 103.8° F. and a tentative diagnosis of bronchopneumonia was made. Sulfathiazole in a dose of 3.0 grams was given and after six hours 2.0 grams was given, after which 1.0 gram was given every six hours. Seventy-two hours later the chest was normal on both physical and roentgenographic examination and the sulfathiazole was discontinued. The temperature curve, uninfluenced by chemotherapy continued to demonstrate a remitting type of fever. Agglutination tests for the causative organisms of tularemia, typhoid fever and brucellosis were negative as was the Vollmer patch test for tuberculosis. An acid-fast stain of sediment from a stomach washing failed to reveal acid-fast organisms. Daily urinalysis was consistently negative for albumin and did not at any time contain more than five leucocytes per high power field in the centrifuged specimen.

On the 13th hospital day intravenous pyelography was performed. Dr. D. A. Dowell, reported the right kidney to be enlarged and to excrete the dye poorly. The right psoas shadow was indistinct and there was a kink in the right ureter.

On the basis of these findings a diagnosis of either carbuncle of the kidney or perirenal abscess was made and surgical consultation requested. Operation by Dr. Thomas Boler, revealed the right kidney to be twice the normal size, the capsule was thickened and pus extruded from a portion of the cortex in which was located numerous abscesses. Because of the extent of the lesion nephrectomy was performed.

On section of the resected kidney, multiple encapsulated collections of pus, some as large as four centimeters in diameter, were apparent. Microscopically the kidney medulla and pelvis were essentially free of the infectious process. The pathological diagnosis by Dr. B. Carl Russum, was carbuncle of the kidney.

Convalescence was marred by recurrence of the patient's staphlococcal skin infection, infection of the surgical wound and anemia. A hordeolum developed on the first post-operative day. In spite of these complications the patient was discharged with his incison healed and apparently well on the sixty-seventh post-operative day.

SUMMARY

A case of renal carbuncle, occurring in a twelve year old boy, with recovery following nephrectomy, has been presented. An apparent lack of resistance to staphylococcal infection was noted in various members of his family. The literature pertaining to the subject of renal carbuncle was reviewed briefly.

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Public Health Education in Nebraska

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The State Health Department of Nebraska through its twelve divisions of service cooperates with the medical and dental professions, and with local, state and national agencies and organizations to further develop the program for prevention and control of communicable disease, and for general healthful living in home, in school and in the community. This is being achieved largely through public health education in which every member of the state staff participates through the services of the divisions.

A year ago there was a felt need for a division of Public Health Education which would be an administrative and coordinating division of service to all the other divisions, as well as to acquaint the public with the use of local facilities for keeping well, and to appreciate the need for a family physician and a family dentist.

In this article we shall attempt to tell of the activities of this Division during the first year of its existence. The plan for the development of the program was based from the beginning on the public health needs and interests in Nebraska and the public health education aspects of each division of the State Health Department.

The many requests for speakers, leaders of discussions, and members of panels, as well as the showing of films to school and community groups have been answered through 353 meetings with an audience of approximately 37,411.

Other means used to bring information and activities concerning public health to the citizens of Nebraska have been: Weekly news releases prepared by a physician; weekly radio broadcasts by members of the staff in cooperation with the office of Civilian Defense; magazine articles; printed bulletins; The Health Almanac; The Healthmobile; exhibits; Health Education Workshops; and the preparation of mimeographed materials. This division has been responsible for the development of these activities in which all the divisions have participated either in an advisory capacity, or through taking part in discussions and in the preparation of broadcasts, articles and exhibit materials.

The material prepared for the state immunization program has been used in large numbers as hundreds of communities have planned with the local physicians for immunization of school children, and have assisted with organization and transportation problems. Eighty thousand children have been immunized against diphtheria and smallpox in the state since February. The tuberculin skin-testing program material has been used by many high schools in the state.

These protective programs important at all times, take on added significance at this time when thousands of workers are moving across the country and hundreds of doctors are going into the military service.

The bulletin "Better Health," speaks to the public through articles of popular interest and news of the public health activities in defense and other areas in the state. Thousands of citizens have become better acquainted with the work of the department through this avenue, and are better informed as to the use of public and private health facilities in their own community, and as to the responsibility which each family has for keeping well. The September issue of "Better Health" includes a chart showing the services of the twelve divisions and how these services may be used by both professional and lay groups in the community. These bulletins reach the medical and dental professions, schools, community leaders and state and national organizations.

The Health Almanac published in January 1942 has had a distribution of 10,000 copies. It was published as a reference book for the layman on the services of the department and on current health problems of home and community. It will be followed by a 1943 Health Almanac.

Exhibits have been developed for the State Fair, for county fairs, district meetings for P. T. A. and Women's Clubs, State Nutrition Council, The Health Education Workshops, and for special window displays on Social Hygiene, and Child Health Days.

The Healthmobile was started on its state journey the first of April. It was a twenty-seven foot trailer equipped with exhibits including posters, diagrams, photographs and cases of material, films and other exhibits which tell the story of Public Health in Nebraska. One room in the trailer is equipped to be used as a clinic by physicians in isolated areas who are immunizing or tuberculin skin-testing persons in the area. Since April the Healthmobile has been in 49 centers in six counties. 11,847 persons have viewed the exhibits. Educational material was distributed in each center.

The School Health program is being developed in close cooperation with the State Department of Public Instruction and the local health and educational personnel. The Health Education program is built around the needs and interests of the people in a certain school area, and is closely related to the public health facilities of the community.

Thirty-five hundred requests for help have been received from Nebraska teachers. Twenty thousand pieces of mimeographed material and two thousand Kits for Teachers have been sent out on request.

Fifteen Teachers Institutes and fifteen county fairs and county-wide showing of films are on the fall schedule.

The Division has cooperated with Congress of Parents and Teachers, State Federation of Women's Clubs; League of Women Voters; 1,700 Project Clubs of Rural Women through the Extension Division of the State Agricultural College; and the State Nutrition Council in planning health programs.

The staff of the Division of Public Health Education has given service in 56 counties during the past year.

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The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

THE STATE HEALTH DEPARTMENT

Last month's article by Mr. Filipi* on the activities of the Bureau of Sanitation was welcome information to the physicians of Nebraska. The service of this Division of the Health Department in times past did not receive the attention it deserved. Extensive though the accomplishments appear there is not a single project mentioned in the discussion which could logically be depicted as unnecessary to the welfare of the Commonwealth. Indeed the wide-awake physician and the sanitarian accustomed to thinking in terms of Public Health could undoubtedly multiply several times the needs of Nebraska in this respect.

Much has been accomplished and in all likelihood, as this area increases in military importance, much more will be added to the existing functions of our Health Department. Protection of the health of every citizen is one of the vital efforts in the war program.

Nebraska has never been lavish with funds for public health, though our mortality rates have not suffered. Whether it was blind luck or unusual hardiness of its citizenry that kept death rates down one guess is as good or as bad as another. We have had reactionary governors who viewed every dollar spent on the Health Department as unnecessary waste of public funds. We have also had executives in the capitol, the present governor among them, whose aim was to attain and maintain a public health program consistent with economy and dignity and public safety.

The war and the New Deal are constantly delimiting the border between public health and individual medical care. Shifting populations create new problems and these new problems demand new administrative methods with constantly changing procedures. Organized medicine must continue to lend its hand on a positive program which will enable these public health agencies to remain limited to the functions and tasks to which they were originally committed, rather than extend their activities outside their spheres.

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*Nebraska State Medical Journal, Aug., 1942.

A Message from Your President

MEDICAL AND PUBLIC HEALTH EDUCATION COMMITTEE

A discussion of some of the Committees of our Association may be of interest and also help solve some of the problems incident to the present emergency. This article will deal with the Medical and Public Health Education Committee, which is a most important key committee. It establishes an educational policy for all of the scientific committees. An amendment to form this committee was introduced in the House of Delegates at the annual session in 1937 under the presidency of Dr. Geo. W. Covey and adopted at the 1938 session.

This committee consists of six members, five of whom are appointed by the president and confirmed by the House of Delegates, the term of each being for five years and so rotated that one member be appointed each year. The sixth member is the Chairman of the Speakers Bureau. Ex-Officio members are the President, President-elect, Secretary-Treasurer, Executive Secretary, Speaker of the House, and the Editor of the Journal. In addition advisory members without the right to vote are the Chairmen of all the Scientific Committees and the Deans of Creighton and University of Nebraska Medical Colleges.

It is the duty of this Committee to formulate the educational policies of the Nebraska State Medical Association, to coordinate the activities of all agencies of the Association engaged in educational activities pertaining to the physician and layman and to co-operate with the Nebraska State Department of Health, and any other organization interested in matters pertaining to health.

The makeup of the committee implies its importance but it has not been functioning due to the fact that the proper matters have not been referred to it for study and approval. Also there has been lack of cooperation by some of the scientific committees in the past.

DEXTER D. KING

The Committee is large and should be concerned only with the general policies and direction of the educational activities, leaving the actual work to be done by smaller and more specific committees. Activities such as our former State Fair programs and those for the schools and lay public in the cities where our annual sessions were held should be under direction of this committee. In recent years the scientific committees have functioned independently. For instance, the refresher courses in obstetrics and pediatrics have been directed by the Maternal and Child Health Committee in conjunction with the State Department of Health with the use of federal funds. These courses have been well conducted and they proved quite successful. The program had the approval of the Council, when probably it should have been first studied and approved by the Medical and Public Health Education Committee.

One of the first activities of this committee after its organization was to try to correlate the work of all the scientific committees. Each committee chairman was asked to submit a report on the work his committee expected to do during the current year, but this was not very satisfactory because some committees had no work outlined and did not function at all.

The solution to this problem is that all questions concerning educational matters be referred to the Medical and Public Health Education Committee. This does not mean that the scientific committees need approval for all their activities; only those involving general educational policies. It should be

(Continued on next page)

recognized that some of the scientific committees have been doing excellent work. To mention a few: the Maternal and Child Health, Vascular and Cardiac Diseases, Tuberculosis, Cancer, Fractures and Convalescent Serum.

As suggested in the June issue of the Journal one of our problems this fall will be programs for the societies over the state. It was mentioned that more local talent might be used but even so some programs will have to come through the Speakers Bureau. Recently a letter was sent from this office to the chairman of each scientific committee asking him to prepare a minimum of three programs and to secure speakers who will go out upon call by the chairman of the Speakers Bureau. None of these committees has less than three members and if each member would be responsible for one program the burden would be light and the main problem solved.

D. D. King, M. D.

THE NATIONAL PHYSICIANS COMMITTEE IS WORTHY OF SUPPORT

On several occasions this Journal has called the attention of its readers to the aims and objectives of the National Physicians Committee for the Extension of Medical Service. The efforts of this group to acquaint the public with the scientific and social advances of modern medicine is worthy of praise and support on the part of every practicing physician who values professional independence and traditional methods of individual medical care. Many physicians, it is true, fail to see a necessitv to broadcast the virtues of medicine in the belief that virtue is its own reward. This concept, unfortunately, is tenable only in absence of contesting features. The fact is that many men and women, intelligent ones, too, live under bizarre impressions about medicine and medical care. They are not prejudiced about it. They simply do not know. What little information they have had until now has come from the misguided reformer, and/or the enterprising politician.

The National Physicians Committee has undertaken the task of acquainting the man on the street with the truth about medicine and hose who are engaged in all phases of practice and research therein. That this is being done in a dignified, truthful manner befitting a learned profession is evidenced by the fact that at the meeting of the House of Delegates of the American Medical Association in June this official body passed a resolution approving the activities of NPS. The House of Delegates further resolved "to encourage this effort (of NPS) and similar efforts with identical purposes."

Following social, political, and economic straws in the wind even the most conservative elements in the profession must admit that there has never been a time in history when proper public interpretation of Medicine and everything for which it stands was as urgent as it is today. In the National Physicians Committee Medicine has found an excellent medium of expression. Through this Committee the American people can learn the truth about what we have thus far accomplished under a system of free enterprise. With this knowledge it is doubtful that Americans will welcome a departure from current methods of practice into a bureaucratic form of medical care.

To operate effectively the Committee must have funds. These must come directly from the members of the medical profession in whose behalf this function was undertaken.

CANCER RESEARCH

A regrettable feature of modern research work, but one which is probably inevitable in view of its specialization and complexity, is the fact that many of its results appear in special publications, and so, if without apparent immediate practical applicability, are not readily accessible except to those engaged in similar work. In no field is this truer than with research on cancer, and particularly on its etiological factors.

Few physicians are unaware of the work done on the apparently herditary transmission of susceptibility to cancer, as developed in large part by Dr. Maude Slye, and more recently, in large part by Little and his coworkers at Bar Harbor. Among the cancers in which this allegedly hereditary factor played a role, cancers of the breast in female mice occupied an important place. However, Bittner, working at the Bar Harbor laboratory, has found that with non-cancerous strains of mice, a greatly increased incidence of mammary cancer can occur if the young of those strains are transferred early in life to nursing foster-mothers of highly susceptible strains, and vice versa. Evidently the milk contains some element which, ingested early in life, permanently alters its takers. After they have become mature and subject to the vicissitudes of mature life, in this case probably the repeated exposure to the known carcinogenic effects of the estrogenic hormones, they become unduly susceptible to the development of mammary cancer. At present, we have knowledge of this fact; the nature of the agent, and its mode of action, are entirely unknown; it has been suggested that a virus is responsible.

While it is true that our knowledge here rests entirely on work done with one species of so-called lower animal, the mouse, and so is not applicable without some reservation to the human being, other phases of work on cancer causation make it probable that the same principles apply to women. Even so, it does not necessarily follow that the work will have any direct practical value, as in the prevention of cancer. To the extent, however, that it is a step toward the solution of the cancer problem, it becomes of real significance, and opens up possibilities that as yet can be realized only dimly.

H. E. Eggers, M. D.

ANNOUNCEMENTS

The Mississippi Valley Conference on Tuberculosis will be held at Edgewater Beach Hotel in Chicago, September 16 to 18. An interesting program has been arranged and all members of the Nebraska State Medical Association are invited to attend.

Make your plans now to attend the 10th annual assembly of the Omaha Mid-West Clinical Society, October 26, 27, 28. 29, 30, 1942, at Hotel Paxton.

Some of the topics to be discussed are: The Doctor and the Armed Forces; The Psychiatric Aspects of War-Time Adjustment; The Child, the Parents and the War; Health Service for Industry; Management of Compound Fractures Resulting from Enemy Action; Deep Infections of the Neck and Posterior Mediastinum; Bronchoscopy and Esophagoscopy, Diagnostic and Therapeutic Aids; The Importance and Method of Doing a Complete Adenoidectomy; The Fundus Oculi in Arteriosclerosis; The Common Cold; Glaucoma in General Practice; Urologic Emergencies; Carcinoma of the Prostate; Treatment of Heart Disease and Diabetes Mellitus in Pregnancy; The Diagnosis and Treatment of Toxemia of Pregnancy; The Treatment of Pelvic Inflammatory Disease; Treatment of Incomplete Abortion; Sterility with Emphasis on Male Factors; The Cervix in Labor; Leukemia; Undulant Fever; Diagnostic and Therapeutic Problems of the Menopause; Pituitary and Ovarian Therapy in Menstrual Rhythm and Fertility; Diagnosis and Treatment of Certain Liver Diseases; Polycythemia, Diagnosis and Treatment; Oral Therapy in Hay Fever, A Review of Results in 1941 and 1942; Lanatoside C in the Treatment of Heart Disease; Chest Pains Simulating an Anginal Syndrome; Treatment of Peptic Ulcer; Hypothyroidism; Management of Difficult Diabetics; Cerebrocirculatory Physiology; Convulsive Disorders; The Problem of "Sciatica"; Use of the Sulfonamides in Acute and Chronic Osteomyelitis; Evaluation of the Nutritional Status of Our Children; Diagnosis and Prevention of Rheumatic Recrudescences; Immunization Against Contagious Diseases; The Kenney Method in Acute Infantile Paralysis; Organic Diseases of the Large Intestine, Roentgenologic; Diagnostic Yield, Roentgenologic Examination of Small Intestine; X-Ray Treatment of Peritonitis; X-Ray Studies of the Non-Tuberculous Chest; Roentgenologic Examination in Major Traumatic Cases; Lesions of the Stomach, Duodenum and Jejunum, Management; Postoperative Thrombosis and Embolism; The Problems Associated with Incisional Hernia; When Do Gastric and Duodenal Ulcers Become a Surgical Problem?; Traumatic Appendicitis; Atypical Perforated Gastric Ulcer, Diagnosis and Treatment; Postoperative Management; More Accurate Prognosis in Brain Tumors; Mycotic Infections of the Skin; New Drugs Used in Dermatology; Etiology and Treatment of Some Types of Pruritis; The Clinical Anticipation of Disease; Problems in Management of Acute Brain Trauma; Gas Gangrene and Infected Compound Fractures; Abdominal Problems; Recognition and Treatment of Mild Vitamin Deficiencies.

SURGEONS' CONGRESS SCHEDULED FOR CLEVELAND, NOVEMBER 17 TO 20

The 1942 Clinical Congress of the American College of Surgeons, originally scheduled for October at the Stevens Hotel, Chicago, which was taken over August 1 by the United States Army Air Corps, will be held in Cleveland, with headquarters at the Cleveland Public Auditorium, from November 17 to 20, according to an announcement from the College headquarters in Chicago. The twenty-fifth annual Hospital Standardization Conference sponsored by the College will be held simultaneously.

The program of panel discussions, clinical conferences, scientific sessions, hospital meetings, and medical motion picture exhibitions at headquarters, and operative clinics and demonstrations in the local hospitals and Western Reserve University School of Medicine, has been centered around the many medical and surgical problems arising out of the prosecution of an all-out effort to win the war, emphasizing the needs of the rapidly expanding medical services of the Army and Navy, and consideration of special problems related to the increasing activities for civilian defense.

The program of both meetings will begin with a Joint General Assembly on Tuesday morning, November 17, with addresses by Surgeon General James C. Magee of the Medical Corps, United States Army; Surgeon General Ross T. McIntire of the

Medical Corps, United States Navy; Surgeon General Thomas Parran of the United States Public Health Service; Lieutenant Colonel George Baehr, Chief Medical Officer of the United States Office of Civilian Defense; Dr. Frank H. Lahey, Chairman, Directing Board, Procurement and Assignment Service; Dr. Irvin Abell, Chairman of the Board of Regents of the College and Chairman of the Health and Medical Committee of the Federal Security Agency; and Dr. W. Edward Gallie of Toronto, President of the College. The surgeons general and Colonel Baehr will also speak at the Presidential Meeting and Convocation the same evening.

CONFERENCE ON VENEREAL DISEASE CONTROL NEEDS IN WARTIME

Venereal disease and America's war effort will be discussed by high-ranking medical officers of the War and the Navy Departments, prominent physicians, health officers and others at a Conference in Hot Springs National Park, Arkansas, October 21-24, 1942. Headquarters will be at the Arlington Hotel.

The Conference will be held under the auspices of the United States Public Health Service in conjunction with the Eighth Annual Meeting of the American Neisserian Medical Society. Surgeon General Thomas Parran will preside. State and local health officers, venereal disease control officers, practicing physicians, and all others engaged in venereal disease control activities are urged to attend.

Subjects for discussion will include venereal disease control measures influencing the war effort, epidemiology of syphilis and gonorrhea—1942, wartime venereal disease control education, research influencing the wartime venereal disease control program, and technics of venereal disease education.

Governmental, professional and health organizations to be represented at the Conference include: the War Department, the Navy Department, the Social Protection Section of the Office of Defense Health and Welfare Services, the American Medical Association, the American Neisserian Medical Society, the American Social Hygiene Association, State and local health departments, and the United States Public Health Service. The following is a tentative program of the Conference.

EIGHTH ANNUAL MEETING MISSISSIPPI VALLEY MEDICAL SOCIETY

The eighth annual meeting of the Mississippi Valley Medical Society, will be held in the Hotel Lincoln-Douglas, Quincy, Ill., Sept. 30, Oct. 1, 2. The program will be given by 25 clinician-teachers who will give over 40 lectures, demonstrations, instructional courses, etc. On Sept. 30 there will be a series of instructional courses by Kansas City clinicians and a complimentary stag supper. On Oct. 1, a group of well-known Chicago teachers will have charge. A special Physicians' Sports Event program will be featured on this date with prizes for golf, skeet, bowling, archery and horse-shoes. The banquet will be addressed by Dr. Edward H. Cary, of Dallas, Texas, Past-President of the American Medical Association, and the Presidents of the Illinois, Iowa and Missouri State Medical Societies. There will be numerous technical and scientific exhibits. Every ethical physician is cordially invited to attend and no registration fee will be charged physicians in the uniform of the armed forces of the United States. The complete program appears in the September issue of the Mississippi Valley Medical Journal, and further information may be secured from the Secretary, Harold Swanberg, M. D., W. C. U. Building, Quincy, Ill.

EXAMINATIONS AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next written examination and review of case histories (Part I) for all candidates will be held in various cities of the United States and Canada on Saturday, February 13, 1943, at 2:00 p. m. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held later in the year. All applications must be in the office of the Secretary by November 16, 1942.

Effective this year there will be only one general classification of candidates, all now being required to have been out of medical school not less than eight years, having in that time completed an approved one year general rotating interneship and at least three years of approved special formal training, or its equivalent, in the seven years following the interne year. This Board's requirements for interneships and special training are similar to those of the American Medical Association since the Board and the A. M. A. are at present cooperating in a survey of acceptable institutions. All candidates must be full citizens of the United States or Canada before being eligible for admission to examinations.

All candidates will be required to take the Part I examination which consists of a written examination and the submission of twenty-five (25) case history abstracts, and the Part II examination (oral-clinical and pathology examination). The Part I examination will be arranged so that the candidate may take it at or near his place of residence, while the Part II examination will be held late in May, 1943, in that city nearest to the largest group of applicants. Time and place of this latter will be announced later.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

NEWS and VIEWS

COMMITTEE PRESENTS MEDICAL KITS TO NEBRASKA

The Medical and Surgical Relief Committee of America with headquarters at 420 Lexington Avenue, New York City, New York, has presented to the Nebraska State Medical Association, one of its emergency medical field kits for use at a point in Nebraska to be designated by a committee headed by Dr. D. D. King, president of the Association.

The equipment in each of these chests is valued at $110.00 and the kits were developed as the result of actual experience of air raids in London.

During the recent meeting of the Nebraska State Medical Association in Omaha, the Medical and Surgical Relief Committee of America was represented by a booth in which the insignia of the committee were sold and a considerable sum was obtained for the work of the committee. Nurses from the various hospitals in Omaha donated their services to take care of the booth.

The physicians of Nebraska have been very generous in their donations of drugs and instruments to the committee over the past two years and several tons of supplies have been sent from Omaha to the committee office in New York for use both in this country and overseas.

Donations of money, drugs, instruments, and money for the purchase of pins at $1.00 each may be sent to the local representative of the committee at 1618 Medical Arts Building, Omaha, Nebraska.

RED CROSS ANNOUNCES EXPANSION OF BLOOD PROCUREMENT PROJECT

Expansion of the Red Cross blood procurement project from an original 900,000 donors during the fiscal year to a minimum of 2,500,000 has been requested by the Surgeons General of the Army and Navy, the Red Cross has announced. Blood collected in this project is processed for use in transfusions by the armed forces.

This almost three-fold increase will require approximately 50,000 volunteer donations a week. The 18 blood donor centers operated by Red Cross chapters in the more populous areas of the country are rapidly completing plans to increase their quotas, and a few additional centers will be opened to handle this augmented number of donations. In addition to dried plasma, blood collected is to be processed into human serum albumin, also for use in transfusions. The Navy is particularly interested in this serum because it requires less storage space than plasma.

Serum albumin as a blood substitute is a recent development for which Dr. Edwin J. Cohn, professor of physical chemistry, Harvard Medical School, is largely responsible. The process at present is regarded as a military secret, but it may be said that albumin is a protein extracted from blood, and some of the processing is conducted at temperatures below 32 degrees Fahrenheit. As is the case with powdered plasma, blood used in preparing serum albumin must be shipped in refrigerated containers and must reach the laboratory within 24 hours after being drawn.

Unlike dried plasma, serum albumin, when prepared for shipment, is in solution. Nothing need be added before the transfusion is given. A unit of the serum consists of 25 grams of albumin dissolved in 100 c. c. of physiological salt solution.

Albumin is put up in glass vials with rubber stoppers at both ends in which tubes are inserted and the transfusion given intravenously. The vial and necessary tubes and needles are enclosed in a tin container about six inches long by two inches in diameter. Etched on each vial are complete directions for giving a transfusion.

Serum albumin, according to present indications, will last for years without deterioration. It does not require refrigeration, and can be kept at temperatures ranging from slightly above freezing to approximately as high as 120 degrees Fahrenheit. It requires 3.6 pints of blood to obtain one unit of plasma. Offsetting this disproportion somewhat is the fact that, generally speaking, a unit of serum albumin is equivalent to two units of dried plasma as a blood substitute. The serum will be used to supplement rather than replace dried plasma, as both products have certain distinctive advantages.

As of June 30 last, donations to the Red Cross blood procurement project for the armed forces totalled 461,493, representing more than 80,000 donations above the 380,000 requested for delivery by that time by the Army and Navy. In this connection Major General James C. Magee and Rear Admiral Ross T. McIntire, Surgeons General of the Army and Navy, respectively, issued the following statement:

"The Army and Navy wish to compliment the American public on the generosity with which they have responded to the Red Cross appeal for donors. We are confident that this same generous public response will be given to the expanded program. It cannot be emphasized too strongly that the collection and processing of blood is a mass production job for which thousands of donors will be needed each week if our armed forces are to be fully supplied."

In announcing the expanded program, the Red Cross explained that until now it has had to restrict quotas of the donor centers because of the limited capacities of processing laboratories. However, several additional laboratories are expected to be participating in the program in the near future, and the capacity of those already processing blood is being expanded. The combined annual capacity of processors is expected soon to reach a total of at least 2,500,000 pints of blood, and may even go as high as 3,000,000, Red Cross officials stated. The 18 donor centers participating in the national blood procurement project are operated by Red Cross chapters in New York, Philadelphia, Baltimore, Rochester, Buffalo, Boston, Brooklyn, Cincinnati, Cleveland, Chicago, Detroit, Pittsburgh, Indianapolis, St. Louis, Milwaukee, Los Angeles, San Francisco, and Washington, D. C.

FIFTH ANNUAL EXHIBITION AMERICAN PHYSICIANS' ART ASSOCIATION

New officers are: President, Samuel Gellert, M. D.; Vice President, Max Thorek, M. D.; Secretary-Treasurer, F. H. Redewill, M. D.

The fifth annual exhibition of the American Physicians' Art Association was held June 8-12, 1942, at Atlantic City, N. J., in Convention Hall, under the same roof with the American Medical Association.

This exhibition was enthusiastically acclaimed the most attractive one of the entire convention, as evidenced by the fact that the 40x60-foot room was filled with vistors at all times. There were 350 original art works, a large number considering wartime. Seventy-three prizes were awarded, so that every contestant felt that he had a chance to win an award, especially since the prizes were divided into four classes, according to the length of time the artist had been working: Class A, over 8 years; Class B, 3 to 8 years; Class C, 8 months to 3 years; Class D, under 8 months.

Under the new rules, no artist may receive more than one award in one year. No private or commercial prizes are permitted, all prizes being the Association's.

One of the interesting developments of the exhibition was that physicians returned again and again, bringing along friends and families. In many instances, doctors' wives brought the doctors. The estimated attendance was 15,000 and it is doubtful that a single visitor to the Convention missed viewing the art exhibit.

The annual banquet was attended by 130 members and friends of the Association, this number being many times larger than at previous meetings. A feature of the banquet was an illustrated talk by Mr. Fred Weber on "Newer Technic of Painting."

Many former members of the American Physicians' Art Association rejoined, and over 200 new members were enrolled. It is not obligatory for a physician to be an artist; he may join either in hope, or simply because he appreciates art and wishes to encourage the physicians' art movement.

Mead Johnson & Company's ambition to make the American Physicians' Art Association self-sustaining will probably be attained when the membership reaches 1,000. The outstanding success of the 1942 exhibition has assured a firm foundation and augurs well for the future.

NEBRASKANS IN THE SERVICE

Lt. W. W. Bruce, Flint, Mich., formerly of Holdrege, is temporarily stationed at Fort Grant, Rockford, Ill.

Dr. R. M. Chamberlain, Wolbach, has been commissioned Captain in the United States Army and will be stationed at Fort Douglas, Utah.

Lt. Arthur E. Dailey, Emmet, is stationed at Camp Berkeley, Texas.

Captain Townsend E. Dent, North Platte, reported for active duty on July 30th at Ft. Douglas, Utah.

Major Joseph Kuncl, formerly of Alliance is now stationed at Tripler General Hospital, Honolulu, Hawaii.

Dr. Frank R. Lauvetz, Wahoo, recently completed a month's training course at Medical Field Service School, Carlisle Barracks, Pa.

The safe arrival in Great Britain of Dr. H. H. Morrow, Fremont, was announced by cablegram recently.

Dr. Lloyd Mousel, of Cambridge, has been called to active service at Ft. Sam Houston, Texas.

Captain E. W. McElligott of Chadron, is stationed at Fort Douglas, Utah.

Dr. Lewis T. Richards, 1938 graduate of Creighton School of Medicine, has joined China's National Airlines.

Lt. Howard Royer, Grand Island, who has been stationed at a naval hospital in San Diego, Calif., is now assigned to foreign service.

Dr. Lester Shupe, now stationed in the Hawaiian Islands, has been promoted to the rank of major.

Captain Raymond J. Wyrens, Omaha, reported for duty at Fitzsimmons Hospital, Denver, on August 21.

Dr. D. B. Wengert, St. Paul, Nebr., leaves September 1 for service in the navy at San Diego Marine Corps Base.

Captain Kenneth Prescott, Long Pine, reported for duty August 21st at Atlanta, Ga., Headquarters 4th Service Command.

Dr. Donald Owen of Omaha is now a captain in the army and was to report for duty August 15.

Captain John E. Downing, M. C., who has been stationed at Little Rock, Ark., for the past year has been transferred to Camp Gruber, Okla.

Lt. Frank J. Iwersen, stationed at U. S. Naval Air Station Dispensary, San Diego, California, returned to Omaha in June for a two weeks leave of absence.

Lt. Jack Murray Hayes, Omaha, reported to Hdq. 9th CA Fort Douglas, Utah on July 22.

Major Donald J. Wilson has been transferred from Fort Leonard Wood, Mo., to the position of Post Surgeon, Fort Camp Dodge, Des Moines, Iowa.

Lt. Clarence S. Hoekstra left Omaha August 8th for Station Hospital, Fort Sam Houston, Texas.

BOOKS RECEIVED

White Eagle, Chief of the Poncas, by Charles Leroy Zimmerman, M. D. Former Physician, U. S. Indian Service, Department of the Interior. Ponca Indian Agency and School until its abandonment in 1919, White Eagle, Oklahoma. 273 pages, illustrated. The Telegraph Press, Harrisburg, Pa.

War Medicine, a Symposium. Editor, Winfield Scott Pugh, M. D., Commander, (M.C.) U. S. N., Retired, Formerly Surgeon, City Hospital, New York; Associate Editor, Edward Podolsky, M. D.; Technical Editor, Dagobert D. Runes, Ph.D. 565 pages with illustrations and tables. Publication date Aug. 25, 1942. Publishers, Philosophical Library, Inc., 15 East 40th Street, New York, N. Y. Price $7.50.

Advances in Internal Medicine, by J. Murray Steele, M. D., Welfare Hospital, New York University Division, Welfare Island, N. Y. 292 pages, including author index and subject index. Illustrated. Publication date Aug. 11, 1942. Interscience Publishers, Inc., 215 Fourth Avenue, New York, N. Y. Price $4.50.

MARRIAGES

Dr. Harold V. Smith, Kearney to Miss Florence Nellis, Hartington, at Hartington, July 29, 1942.

Dr. Albert M. Harris, Little Rock, Ark., to Margaret Eleanor Hofstad, Sioux Falls, S. D., at Sioux Falls on August 5, 1942.

BIRTHS

To Dr. and Mrs. John W. Gatewood of Omaha, a daughter, on July 24, 1942.

DEATHS

Dr. Frederick Walter Luhman, Pender, born in Vienna, in 1879, came with his parents to America in early childhood and located in Wisconsin. He was graduated from Rush Medical College in 1902; practiced for a while in Wisconsin and Washington State. He located in Pender in 1918, where he remained until his death, August 10, 1942. Dr. Luhman was a member of the Five County Medical Society, Nebraska State Medical Association and the American Medical Association. Survivors are a wife and one daughter.

Dr. Amesbury Lee, Pickrell, born in 1886 in Blue River, N. Y., graduated from Creighton University School of Medicine in 1910 and soon thereafter located in Pickrell where he practiced continuously until the time of his death July 29, 1942. The doctor was active in organized medical activities and served as president of the Gage County Medical Society. Surviving are his wife, a daughter, and a son, Amesbury Lee, Jr.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

The Brewster Hospital, Lexington, is reported closed.

Dr. John Farner, recently of Norfolk, moved to Valentine.

Dr. J. J. Hompes, Lincoln, vacationed at Alexandria, Minn., during July.

Dr. and Mrs. R. R. Brady, Ainsworth, vacationed in the Black Hills in July.

Dr. R. R. Seasongood, formerly located at Wayne, is now practicing at Carroll.

Dr. F. M. Bell, Grant, addressed the local Rotarians on how war affects medicine.

Dr. R. D. Bryson, Callaway, completed thirty years of service to that community on July 13, 1942.

Dr. H. V. Nuss, Sutton, was seriously injured in a head-on automobile collision near Sutton, August 10.

The sympathy of the Journal is extended to Dr. E. C. Foote, Hastings, upon the recent death of his wife.

Dr. George Covey and family have returned to Lincoln after spending several weeks' vacation in Wyoming.

Dr. A. F. Tyler, Omaha, who has been ill since last fall is convalescing and expects to return to his office soon.

Dr. and Mrs. Raymond A. Newton returned to Genoa, July 19, from Chicago where the doctor took five weeks' special work.

Dr. and Mrs. Benjamin F. Bailey, Lincoln, are now at their home in Carmel, Calif., where they will remain until the first of October.

Dr. James F. Kelly, Omaha, was elected president of the Executive Board of St. Catherine's Hospital staff, succeeding the late Dr. W. P. Wherry.

Dr. P. L. Barnes who has been on the staff of the state tuberculosis hospital, Kearney, has returned to Norfolk to again be on the staff of the State Hospital.

Dr. R. L. Hook, Rushville, was confined at Immanuel Hospital, Omaha, for several weeks in August as a result of a broken leg. The doctor was thrown from a horse.

TUBERCULOSIS ABSTRACTS

Industrial health and tuberculosis in industry are topics of great concern to all nations at war. Britain, the senior partner of the United Nations by length of service, was confronted much earlier than we were by problems arising from the conversion of peace economy to war production. The following are abstracts from recent British publications.

Industrial Health

The recent reformation which has taken place in the health and life of the industrial worker in Britain is one of the most impressive and remarkable chapters in the progress of preventive medicine. It records a development from disorder, neglect and confusion to regularity and discipline, and from arbitrary mismanagement to scientific planning. It has become physiological, social and personal in objective. This is of national importance, for it affects five or six million men and women workers in the factories, and twenty million workers outside them. It sets a standard for all employment, and crystallizes British conceptions and traditions. It is perhaps the most popular of all public methods of preventive medicine, and has in it the elements of a liberal education. It improves and fortifies the individual health of the workman—his only capital—increasing his dividend, lengthening his life and enlarging his opportunity and personality. It affects the whole man—his habits and character, his domestic life, his family and his home as well as his workplace. It is a great school of citizenship and health education of body, mind and spirit.

The worker himself, and not his factory environment, is the vital factor. His fitness, capacity, endurance and willpower are the chief requirements in order to prevent that overstrain, fatigue and disharmony which may be the precursor of disease. This is the center of gravity.—Industrial Health, Sir George Newman, Britain Today, Feb., 1942.

The Tuberculous in Industry

For years the after-care attention meted out to post-sanatorium cases has been the Cinderella of the Tuberculosis Service. This has been due to a variety of reasons. In the main, the results were less spectacular than those of the operating theater and hence never achieved the same popularity in the lay mind; and again with a floating peacetime unemployed population of about three million, healthy labor was at a premium.

Information about tuberculous disease or previous treatment at a sanatorium or dispensary should be made compulsory for all persons entering industry. This is the practice at military boards and there appears no legitimate reason why this should not be incorporated into the civilian industrial life of the country. Such a measure would ensure the control of infection in the interests of the health of the community. Naturally, such a course will occasion opposition. It will be argued that this represents an encroachment on the freedom of the individual; however, freedom would be an intolerable institution if it permitted an individual indiscriminately to infect with disease his fellow creatures.

An extremely strong case can be made out in view of the recent extension of the defense orders making the treatment of scabies compulsory in the interests of national health. The extension of such a defense regulation to incorporate tuberculosis should prove a relatively simple legal measure.—Some Reflections on the Tuberculosis in Industry, Bertram Mann, B. M., Tubercle, March, 1942.

Mass Radioscopy in Factories

Much has been written lately concerning the value of mass radiography of the chest, and reports, among others, of investigations into the pulmonary pathology of Australian recruits, British sailors and University College Hospital students are available, but so far little has been done in this country with the ordinary unselected civilian population. Anyone who has felt the urge to conduct such an examination must at once have become conscious of the many difficulties, of which lack of suitable apparatus and the reluctance of the population to submit to examination are the chief. Nevertheless, few of us doubt that these difficulties will soon be overcome.

X-ray screening of the chest was offered to the work-people in two factories, the management allowing this to be done in working hours. In the first, 60% and in the second, 97% came for examination. Of 575 people examined in the first factory, three were found to be tuberculous. Of 795 examined at the second factory, two were known to have phthisis and two others were found to have active disease.—Mass Radioscopy in Factories—Two Small Surveys, A Stephen Hall, M. B., The Lancet, Feb. 7, 1942.

Weeding Out Tuberculosis

Commenting on the above article by Dr. A. Stephen Hall, a later issue of The Lancet states in an editorial:

"In each factory about 0.5% of the workers had clinically tuberculosis. This percentage is lower than that found in similar mass surveys elsewhere, a common figure being between one and two per cent. The question therefore arises whether the examiner sees as much and as truly on the fluorescent screen as on the developed film.

"In this welter of instrumental aid when employers and employees alike have been led to expect surveys which will 'wipe out tuberculosis' it may be well to add a cautionary word. No diagnosis is ever made on a fluorogram; any doubtful or abnormal finding calls for a full-size radiogram and, should the abnormality be confirmed, a thorough physical overhaul. If the whole method is not to be discredited, and if hardships and misery from faulty diagnoses are to be eliminated, as much thought must be given to the training of personnel as to the choice of apparatus.

"If a worker submits voluntarily to examination he will naturally ask that he and his family are not to suffer financially while undergoing treatment for what, in his opinion, might have healed at work. Tuberculosis is coming to be regarded more and more as a disease of economics." —Weeding Out Tubercle, Editorial, The Lancet, March 21, 1942.

Keep Doctors Healthy

Paul V. McNutt, chairman of the War Manpower Board, recently pointed out that unreasonable demands in physicians' time must be avoided.

The necessity for this is apparent. Thousands of doctors have entered military service. By the end of this year, 20,000 additional physicians will be needed to serve our men in uniform. The need must be met, and it will be met. And one inevitable result will be a sharp decline in the number of doctors available to serve civilians.

This does not mean that anyone will have to go without necessary medical attention. It does mean that all must help, so far as they can, to see that doctors are able to use their working time to the fullest advantage. To quote Mr. McNutt, on the doctors' part "it will mean long hours and hard work—sacrifices which will multiply the deep debt that every community owes to its physicians. There will be a real need to exercise every possible means for minimizing medical services."

In other words, you are asked to forego for the duration the "luxury" of wasting your doctor's time and energies. That is a real and necessary contribution to the war effort, and to the protection of civilian health as well.—From North Platte Telegraph.

Influence of 'Sodium Amytal' on Intelligence

During air raids on London various sedatives were tried on anxious patients, not only therapeutically, but prophylactically to reduce apprehension and induce a state of relative mental calm. In order to determine the degree of mental impairment and the capacity to react reasonably to an emergency, Slater, et al. (Lancet, 1:676, June 6, 1942) measured the effect of 'Sodium Amytal' (Sodium Iso-amyl Ethyl Barbiturate, Lilly) by means of standard intelligence tests which were performed on nearly 400 cases. It was concluded that doses of 3 grains or less did not impair the functioning of the patients intelligence to any important extent. The drug must be prescribed, nevertheless, with individual susceptibilities and requirements in mind. Doses of 1 grain to 3 grains were most generally useful.

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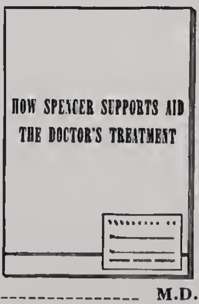

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FIND MANY SELECTIVE SERVICE REJECTEES CAN BE REHABILITATED

An analysis of the results of physical examinations in Tennessee under Selective Service from Feb. 15, 1941 to Jan. 1, 1942 shows that "in considering possible manpower for military service, after correction and treatment possibly around two thirds of the registrants in Tennessee may be made available," Harrison J. Shull, M. D., Major, M. C., U. S. Army; Joe W. Fenn, M. D., Major, M. C., U. S. Army; Ruth R. Puffer, and W. C. Williams, M. D., Nashville, Tenn., declare in a report published in the August 1 issue of The Journal of the American Medical Association. Their findings are based on the results of examinations on 47,880 registrants.

"Slightly over one half (52.6 per cent) of these registrants were considered qualified for general military service," the investigators point out. "Of the 22,696 registrants not qualified for general military service, 20,497 were rejected by local boards and 2,199 by induction stations.

"Among the 43,034 registrants on whom serologic tests were made, 8.3 per cent were found to have syphilis, with the percentage of colored men (26.3 per cent) nearly ten times that of white men (2.7 per cent). The second most common among these diseases and conditions was musculoskeletal defects, causing 7.4 per cent of these men to be classed 1-B or IV-F. Other very prevalent defects were teeth defects, diseases of the eyes and diseases of the cardiovascular system (involving the heart and blood vessels).

"The registrants with diseases or conditions causing them to be classed I-B (qualified for limited military service) have been considered as men who might be suitable for service after correction. . . . .

"Of the 11,869 registrants classed I-B (qualified for limited military service), 9,443 (79.6 per cent) were found to have only one defect causing classification I-B, 2,122 (17.9 per cent) two defects causing classification I-B and 304 (2.6 per cent) three or more defects causing classification I-B.

"In all, 7,543 (63.6 per cent) of the 11,869 registrants classed I-B may have remediable defects and through correction and treatment may be prepared for general military duty.

"The nature of the 8,712 remediable defects of these 7,543 registrants was determined. Primary, secondary or latent syphilis was the most common, with 2,752 (31.6 per cent) of these defects in this group. Defective and deficient teeth were the defects for 1,796 registrants, hernia for 1,293 and gonorrhea for 921.

"In addition to the 25,184 registrants classed I-A (available for general military service), 7,543 registrants who were qualified for limited military service may have remediable defects. Thus in considering possible manpower for military service through correction and treatment, approximately two thirds of the registrants in Tennessee may be made available for service."

In conclusion they say that "In view of the need for manpower for military duty the group of registrants rejected from general military service who

(Continued on page xxi)

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SELECTIVE SERVICE REJECTEES

(Continued from page xvi)

have defects which are considered remediable represents a large force which can be restored for service for the country. This group of men with remediable defects represents American citizens on whom rests no less responsibility for military service than on their fellow citizens found to be physically acceptable. Facilities are now being made available under the plan adopted by Selective Service for rehabilitating men with remediable defects in order that they may take their proper place during this national emergency and also that these men may be made physically stronger for life as healthy citizens."

MINUTE SULFATHIAZOLE CRYSTALS

Minute crystals (microcrystals) of sulfathiazole, a derivative of sulfanilamide, prepared by a new procedure, have been found to be more effective aids in treatment of surgical wounds and local infections than the ordinary large sized crystals of the drug, Leslie A. Chambers, Ph. D.; T. N. Harris, M. D.; Francis Schumann, M. D., and L. Kraeer Ferguson, M. D., Philadelphia, report in the May 23 issue of The Journal of the American Medical Association.

In certain procedures it is desirable to inject the sulfonamides through fine hypodermic needles, they explain. Usually this is not possible because of the large size and irregular shapes of the crystals. It was found that direct vibration did not reduce the size of the crystals. However, an indirect procedure involving sonic-agitation has been developed which reduces the crystal size sufficiently to permit passage through 26 gage needles. By sonic agitation is meant vibration by means of high frequency audible sound waves.

The authors say: "The results with the local use of the microsulfathiazole in thirty traumatic wounds and 57 cases of infection have been favorable. It was used in suspension in the abdomens of 19 patients with no untoward results. . . ."

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Special Problems in the Diagnosis and Treatment of Peptic Ulcer*

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So much has been written on peptic ulcer that further discussion of the routine management of the condition is unnecessary, but there are special problems of diagnosis and treatment and some changing concepts of the disease that give the subject continued interest.

The diagnosis of peptic ulcer is not difficult as a rule. The symptom complex is so well known and so constant in a high percentage of cases that usually a fairly reliable diagnosis can be made on the history alone. This, however, is a dangerous practice and should be condemned. The diagnosis should rest upon a triad of facts, namely the history, the gastric hyperacidity and the x-ray deformity of the stomach or duodenum.

The importance of an early and accurate diagnosis of a patient with indigestion that suggests ulcer does not appear to be generally appreciated. When one realizes that cancer of the stomach, which not infrequently occurs in patients of the ulcer age, may in the initial stages mimic ulcer, the importance of early diagnosis is obvious. On the other hand, there are many patients who have typical ulcer symptoms caused by bad dietary habits, excessive smoking or other functional causes and if they are stigmatized with the diagnosis of ulcer they are placed at an unfair disadvantage when it comes to buying life insurance or to entering professions with strict health standards.

One of the helpful points is the history of night pain. Nearly all patients with a real ulcer, experience at some time in their course, typical recurrent pain, wakening them about 1 or 2 a. m., while the patient with functional indigestion rarely has this symptom.

The use of the gastric analysis is too often neglected outside of hospital or clinic practice. Its value is not only confirmatory but is often a warning which prevents a wrong diagnosis. The dictum, "no acid, no ulcer," is one of the most reliable and when free acid is lacking or is low, duodenal ulcer is improbable in spite of positive roentgenologic deformities which may be produced by causes other than ulcer, such as gallbladder disease.

Therefore, in order to make a positive and reliable diagnosis of ulcer, we need a good history, an x-ray defect and hyperacidity. Without any one of this triad the diagnosis is not on a sound basis.

Although the characteristic syndrome of pain—food—ease is generally typical, when an ulcer penetrates deeply into the tissues so that there is direct irritation of segmental nerves, symptoms may arise which are not in the least suggestive of peptic ulcer. Often severe pain without relation to meals may occur in the back, flank and lower chest, in such a way that the physician's thoughts are directed away from the gastrointestinal tract and he may not even suspect ulcer as a cause. If, however, he remembers that any otherwise unexplained pain in the abdomen, back, flank or lower chest may be the symptom of a penetrating ulcer, or if he detects signs of bleeding into the intestinal tract, he may order a roentgenologic examination of the stomach, which clears up the diagnosis.

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*Read before the Omaha Mid-West Clinical Society, Omaha, Nebr., October 28, 1941.

An understanding of the clinical course or life history of an ulcer is of utmost importance, not only in diagnosis but in the management of the condition. As is well known, the course is characteristically intermittent, with periods of activity and periods of quiescence. Furthermore, it tends to be a progessive disease. With each attack of active ulcer, a little more damage is done; a little more tissue is ulcerated, and more scar tissue results. If this is allowed to continue over a period of years there is an accumulated scarring and deformity of the duodenum which produces the calloused, indurated and often intractable lesion which is so often associated with a long ulcer history and constitutes one of the most difficult problems of both medical and surgical treatment. This progressive pathologic change may also cause serious complications, such as gross hemorrhage and obstruction.

It is obvious, therefore, that it is important to get an ulcer under control and keep it under control, thereby arresting this progressive scarring of the duodenum. Adequate treatment, even for the patient who does not complain much and tolerates recurrent attacks over many years, is the only preventive of the type of ulcer which often presents such a difficult problem in later life.

One of the special problems associated with the chronic, long-standing ulcer is the diagnosis. Although there may be no difficulty in demonstrating the gross lesion, the usual ulcer symptoms may have become so atypical that the clinician cannot be certain that the ulcer is the cause of the patient's complaints. Often it is necessary to study and painstakingly rule out other body systems and finally remove the ulcer surgically before the causative relationships of the duodenal lesion with the patient's symptoms can be established.

In the light of our present knowledge, there is no cure of the disease which produces peptic ulcer. Clinical experience suggests that some patients, as they grow older, seem to recover from the tendency to reactivate their ulcer, but just when this occurs or why it occurs is not known.

Treatment, therefore, whether it be medical or surgical, must be considered as a control and not a cure. It is important for patients to understand that their ulcers can be healed and they can be taught how to keep their ulcers healed, but the control of the disease is a lifetime job. They must always follow certain rules of living that protect them from recurrences of active ulcer.

The optimum general plan for the treatment of an uncomplicated case consists first, of hospital treatment for a period of approximately three weeks, in order to bring about a sound healing of the ulcer, to put the patient in the best general health and to teach him the fundamental rules of treatment and control. Second, during the following months which may be considered as a period of consolidation of the treatment in the hospital, the patient is kept on a regime which is gradually modified as control of the disease is evidenced by repeated x-ray and laboratory examinations, until the regime closely approaches a normal way of living with, of course, some restrictions as to diet, habits and activities. The third period, which is of indefinite duration, leaves the patient practically "on his own," putting into practice the measures he has been taught and which serve to protect him from recurrences.

There are several problems which may arise during hospital treatment. Hypersecretion of highly acid gastric juice is a concomitant of duodenal ulcer. It is as much a part of the disease as the ulcer itself. It is well known that if the free acid of the gastric contents is kept neutralized or nearly so, healing of the ulcer is promoted. Milk and cream feedings alone frequently do not control the acidity and for this reason alkalies or other antacids are often necessary in order to get as much healing as possible during the patient's stay in the hospital. Although Sippy powders are effective, certain undesirable properties have resulted in the widespread use of other antacids, particularly the colloidal preparations of aluminum hydroxide. A practical method which gets results and keeps the cost of treatment within reason is to combine the use of Sippy powders and aluminum hydroxide in alternate doses. With this method, alkalosis is seldom encountered and aspirated samples of gastric juice show well neutralized acidity.

High night acidity in duodenal ulcer has caused some clinicians to employ an indwelling soft stomach tube, through which a neutralizing or buffering solution is administered through the night hours by a constant drip apparatus. Our experience is that the so-called constant drip apparatus is often not constant and requires considerable attention. When nursing care is adequate it has been found much simpler to give the patient an hourly dose of antacid by mouth during the night. This can usually be done without fully awakening the patient and, surprisingly, there is very little complaint of disturbed sleep.

Constipation is frequently a problem since the ulcer diet and medication tends to produce hard stools. Magnesia added to the powders can be used, although sometimes intestinal irritation develops from it. With patients who do not tolerate magnesia, the daily instillation of oil into the rectum is a practical solution.

During the first six to twelve months after the period of hospital treatment patients should be kep on a strict regime. In general, it is better to over-treat than to under-treat. Repeated check-up examinations of the gastric acidity and the roentgenologic appearance of the duodenum keep the patient more faithfully on the regime and help to govern the modfication of the treatment.

By the end of one year nearly all patients need to eat only three meals a day, with milk at 10 a. m. and at 3 p. m., and to take an antacid after each meal and at bedtime.

The question of smoking is often a difficult problem. It is generally accepted that tobacco has a deleterious effect upon the control of ulcer, but the exact mechanism of this effect is not well established. An idiosyncrasy to tobacco among ulcer patients has to be considered, and if true, would mean that a few cigarettes are as bad as a large number. In practice, the total elimination of tobacco is one of the most important steps in the control of ulcer. Patients usually find that the sudden complete elimination is the easiest method. For the inveterate smoker, a substantial reduction without complete elimination is usually impossible.

Alcohol in any form or in any amount is contraindicated, but it seldom presents as difficult a problem as does tobacco.

Gross hemorrhage is a complication of peptic ulcer which may present serious problems of therapy. Mild hemorrhage which is unaccompanied by fainting or shock is not a difficult problem and usually can be treated by the routine ulcer regime.

Severe hemorrhage, on the other hand, consists of a sudden reduction in blood volume, with fainting, shock, pallor, fall in blood pressure and rise in pulse rate. These clinical signs are indications that a fairly large vessel has been opened by the ulcer. The mechanism by which the loss of blood is stopped is by retraction of the ends of the vessel and thrombus formation within them. If there are any factors present which prevent retraction, the hemorrhage may be repeated as soon as the blood pressure recovers from the initial drop. The chronic, indurated and calloused ulcer may prevent good retraction of the blood vessel, as mav arteriosclerotic changes in the vessel wall. This is the explanation now held for the five times greater mortality for hemorrhage in patients over the age of forty-five as compared with hemorrhaging cases in general. Death rarely occurs with the first hemorrhage, but recurrent or secondary bleeding within several hours is of important significance with regard to mortality. When it occurs, surgical interference in spite of its hazards, may be necessary to save the patient's life. Therefore, one of the questions to be determined as soon as possible is whether or not the hemorrhage will be intractable to medical measures. For the first twenty-four or forty-eight hours after a profuse hemorrhage, complete starvation of the patient is indicated. The ingestion of food as advocated by Meulengracht during this stage may cloud the issue, making it difficult to determine if further hematemesis is due to food or to continued hemorrhage. Furthermore, there is little to be gained therapeutically from food or alkali, since the stomach contains considerable blood, and free acid is usually absent. If the bleeding lesion is a hard, calloused ulcer with an eroded branch of the pancreaticoduodenal artery, no dietary regime of any description can be expected to stop the loss of blood. It is usually not necessary to prolong the starvation period for more than two days since the tractability of the hemorrhage can be determined in that time. Therefore, a short period of withholding everything by mouth, followed by an appropriate ulcer regime, is the procedure of choice. The reported improvement in mortality rates with the use of the Meulengracht method of early feeding of hemorrhage cases is probably due to the avoidance of dangerous exhaustion from too prolonged starvation.

The management of hemorrhage, therefore, consists of complete bed rest, nothing by mouth, repeated doses of morphine or some other form of adequate sedation, and careful observation for signs of repeated hemorrhage which is best detected by keeping an hourly or half hourly record of the pulse rate and blood pressure.

Blood transfusions if given slowly can be used without fear of raising the blood pressure to the point of causing hemorrhage, and are indicated in practically all cases of severe hemorrhage. If the patient has had a hemmorrhage so severe that a secondary hemmorrhage might cause a fatal collapse, certainly a transfusion should be given at once. When secondary hemorrhage occurs after a transfusion it probably would have occurred in any case and the patient is certainly in a better position to survive if his blood volume has been augmented. Parenteral fluids should be used to prevent excessive dehydration but should be given slowly and in only moderate amounts.

The blood counts and hemoglobin determinations immediately after a hemorrhage are of little value in estimating the severity of blood loss. One must depend upon the degree of pallor, the severity of the shock, and the quantity of blood expelled by mouth or by rectum.

Surgical interference is necessary only in cases of acute hemorrhage which show repeated shocking hemorrhages while the patient is on a medical regime. However, the operative risk is extremely high and the operation should be attmepted only by a surgeon who has had considerable experience in gastric surgery.

Pyloric obstruction is another complication of duodenal ulcer which presents special problems of treatment. Gastric retention may result from the acute spasm and edema of active ulcer, from the chronic and progressive narrowing of the duodenum from cicatrix formation resulting from a chronic ulcer, or from a combination of these factors. Practically all cases can be relieved, at least temporarily, by medical treatment, consisting of adequate acid control and antispasmodics. If acute spasm and edema are the predominant causes, the relief from medical treatment will be permanent as long as the activity of the ulcer is controlled. If, on the other hand, chronic organic stricture is the chief cause of the obstruction, medical relief is only temporary and the motor function of the stomach becomes decompensated with the first slight upset.

If the obstruction is accompanied by evidence of active ulcer, hypersecretion, a short history of ulcer and a short history of obstructive vomiting, and the gastric stasis is quickly relieved by adequate ulcer therapy, surgical interference may be considered unnecessary. If the obstruction is present without accompanying ulcer activity or hypersecretion, and the patient has had obstructive vomiting for more than two months, surgery is probably necessary for satisfactory relief.

In the medical treatment of the obstructing ulcer the diet of fluids or soft solids should be limited in amount so as not to exceed the capacity of the stomach to empty itself. If less cream is used and either boiled milk or evaporated milk is administered, a finer curd is produced and the emptying of the stomach is facilitated. The free acid should be controlled by the use of adequate doses of alkali and aluminum hydroxide throughout the twenty-four hours. The motor function of the stomach is improved if dilatation is prevented either by aspiration with a stomach tube every eight to twelve hours or by an indwelling Levin tube. Atropine in 1/100 grain doses, given hypodermically every four hours, is helpful. Frequently loss of fluids and chlorides makes it necessary to give parenteral injections of saline solution until the vomiting is controlled, and fluids begin to pass the pylorus.

Gastric Ulcer. The problems presented by the gastric ulcer are much the same as those of the duodenal lesion, with the additional and imperative feature of early and accurate differentiation from possible malignant ulcer of the stomach.

Roentgenologic studies of the location, size and morphology of the crater may give evidence indicating that the lesion is either probably benign or probably malignant, but experience has demonstrated exceptions to all the criteria so that a diagnosis from a single roentgen examination cannot be depended upon entirely, particularly when the penalty for error is so severe. Even surgical exploration is not conclusive in some cases. The same is true for gastroscopic examinations.

The only practical and reliable method is the complete healing of the lesion on a medical regime, observed by repeated roentgenologic studies at regular and frequent intervals and finally proved by both x-ray and gastroscopic examination. The lesion must heal completely and disappear, otherwise malignancy cannot be considered as eliminated. Since many gastric ulcers do heal readily, this method has saved many unnecessary operations. Even a malignant ulcer may improve on a medical regime but it does not disappear. Consequently a wide resection is necessary for any ulcer which does not heal and disappear, with complete return of flexibility in the area involved.

Surgery in the treatment of peptic ulcer should not be considered as a cure of the disease but as an additional procedure designed to help in the control of the condition. Mechanical difficulties which result from peptic ulceration and healing may also make surgical help necessary.

Intractable pain is occasionally an indication for surgery and the ulcer, the symptoms of which are uncontrollable by medical treatment, is usually a long-standing, inadequately treated ulcer which has resulted in marked organic changes in and around the duodenum. Subtotal resection of the stomach with removal of the first portion of the duodenum is the operation of choice, but the extreme scarring and induration make these cases difficult surgical problems as well as medical problems.

The occurrence of repeated gross hemorrhages is an indication for operation, particularly if an adequate medical regime has failed to prevent them and if the hemorrhages have been severe. Obviously, an operation which removes the lesion, usually a subtotal resection, is desirable.

As previously mentioned, intractable, acute hemorrhage is an indication for operative interference if thorough medical measures have failed and the operation is done before the patient becomes moribund. To stop the bleeding it is necessary to remove the lesion or open the stomach or duodenum, and transfix the bleeding vessels. A subtotal resection may be advisable at a second operation.

Pyloric obstruction, when due to chronic organic stenosis of the duodenum or pylorus is a mechanical difficulty which requires surgical relief. This is about the only condition in which gastroenterostomy is indicated, particularly if the patient is elderly and the activity of the ulcer has subsided.

The possibility of cancer cannot be ruled out in some cases of gastric ulcer and ulcer of the duodenum near the pylorus. If repeated observations do not make the differentiation clear, there is no choice but to treat the lesion as a malignant one and remove it.

The opstoperative mortality has long been a bugbear of gastric surgery, particularly associated with the more radical procedures which are now considered to be desirable from a therapeutic standpoint. Major improvement has come about through changes in technic, developments of new methods of anesthesia and better preoperative and postoperative care of the patient, with special reference to th combating of respiratory complications with bronchoscopy and clearing the air passages by suction. The surgical staff at our clinic now reports 140 consecutive subtotal gastric resections, with but one death, which was due to embolism.

Gastrojejunal ulcer is a complication which may follow any operation for duodenal ulcer in which the gastric mucosa is anastomosed to jejunal mucosa. It is always on the jejunal side of the anastomosis, so it is actually a jejunal ulcer. It appears to be less frequent after subtotal gastrectomy thán after gastroenterostomy. It practically never occurs after an operation for gastric ulcer or for carcinoma. It is always associated with persistent acid secretion. If a patient who has had an operation for duodenal ulcer begins to complain of recurrent typical ulcer symptoms, or has a hemorrhage, or a typical abdominal pain, jejunal ulcer should be suspected.

There appear to be two clinical types. The first type is characterized by mild distress, and frequently by gross hemorrhage. Symptoms may occur at any time after operation. The roentgenologic examination shows no definite crater and the symptoms are relieved readily by rest and medical treatment. Apparently the best explanation of this condition is an accidental traumatic break in the jejunal mucosa, with peptic erosion of the injury which is superficial and tends to heal.

The second type is characterized by severe and often atypical pain and hemorrhage, and usually occurs within a few months of operation. The roentgenogram frequently shows a penetrating crater in the jejunum which responds poorly to medical treatment.

Prolonged and rigid management does heal these ulcers in some cases, especially if emphasis is placed on inactivity for a long period of time.

The tendency to perforation and to hemorrhage, however, makes temporizing undesirable, and reoperation is frequently advisable.

To summarize briefly, the best answer to the ulcer problem is early diagnosis and early treatment with prolonged and adequate control of the disease.

* * *

IN THIS ISSUE

OUR knowledge of peptic ulcer is brought up to date in an excellent paper by Dr. Everett D. Kiefer of the Lahey Clinic, Boston. The discussion received wide comment when it was delivered at the last annual session of the Omaha Mid-West Clinical Society. See page 233

THERE is no end to the discussion on the Sulfonamides. Some of the salient points of chemotherapy of the respiratory diseases are elucidated by Dr. Lynn T. Hall, Chairman of the Department of Therapeutics at the University of Nebraska College of Medicine on page 339

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Chemotherapy of Respiratory Diseases*

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In the seven years that have elapsed since Domagk(1) published his observations on the striking effect of the brick red dye, prontosil, upon experimental streptococcal infections, the use of sulfonamide drugs has properly been accepted as the treatment of choice for many infections. Within these few years over 1,200 sulfonamide drugs(2) have been synthesized, tested out in the laboratory and rendered available to the clinician. The favorable response to these drugs reported in medical literature by many observers has aroused an unprecedented interest in chemotherapy. Many of the time-honored drugs are still popularly employed by good clinicians. Their action, however, is directed chiefly to the relief of distressing symptoms and for these purposes we should dislike to be without them. Out of this vast array of materials, for all of which striking advantages have been claimed, there arises the inevitable problem of the selection of the proper drug for the treatment of a particular infection. It is the purpose of this paper to point out the accepted drug for respiratory infections and to discuss certain abuses and contra-indications.

The specialist in diseases of the nose and throat and also the internist and general practitioner are always faced with problems due to the invasion of any or all of the regions of these fields by streptococci, and frequently by such complications as meningitis and septicemia. Drugs with highly touted effects in the treatment of such conditions command immediate attention. The first reports announced curative effects of prontosil in the treatment of acute nasopharyngitis or septic sore throat. It is of interest that in practically every case of a carrier of hemolytic streptococci, sterile cultures for these organisms are found in a few hours after beginning the use of sulfanilamide. When the infection in the pharynx and tonsils is due to the streptococcus, the temperature recedes rapidly following the administration of the drug. Stopping the drug too soon generally results in a flareup of the infection. As in other infections the use of the drug for several days after the disappearance of clinical signs, especially fever, has been accepted as proper procedure.

On the basis of our present knowledge, sulfanilamide is still the drug of choice for the treatment of infections due to the hemolytic streptococcus(3). Sulfadiazine may soon prove to be the equal if not the superior drug(4). Streptococcic sore throat is characterized by high fever, sore throat, a red corrugated appearance, swollen tender cervical nodes, and a positive throat culture for the specific streptococci. Obviously it is inaccurate and likewise unfair to dub every sore throat a "strep" throat. While it is true that symptoms seem to disappear as if by magic, it is still urged that sulfanilamide not be given for ordinary sore throat. It is also to be noted that sulfanilamide has no prophylactic value in checking the spread of tonsillitis and pharyngitis, but is of greatest value in the treatment of the individual case. It is of further interest that, although clinical recovery from streptococcal sore throat may occur rapidly, the throat culture may remain positive for streptococci for many weeks thereafter.

Sulfonamides do not appear to have any effect on suppurative adenitis, although favorable results may be noted in the treatment of nonsuppurative adenitis. In the latter group the temperature falls rapidly and the glands return to normal size promptly. In the presence of suppuration, drainage is generally necessary. However, even in some of these cases there seems to be some benefit in that the postoperative recovery period is shortened. In the treatment of Ludwig's angina the use of sulfanilamide is extremely valuable.

With a number of infectious and noninfectious diseases sulfonamide therapy seems to have no value. The infections caused by Vincent's organism or by fungus are unaltered by use of the drugs. The common cold and influenza, caused by filterable viruses, show no experimental or clinical evidence of beneficial effect from sulfonamides. Only if a secondary infection with hemolytic streptococci or pneumococci develops should they be used. With the exception of lymphogranuloma inguinalis and trachoma, all virus diseases are unaffected by sulfonamide drugs. Therefore, they should not be used in uncomplicated chicken pox, mumps, measles, poliomyelitis and encephalitis. It has been pointed out that sulfonamides are unjustified in noninfectious disorders. Although their use for a short period, even if improperly administered, might have no serious toxic effects, caution is necessary.

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*Read before Seventy-fourth Annual Assembly, Nebraska State Medical Asociation, Omaha, May 5, 1942.

In the treatment of rhinitis and sinusitis, also, the best qualified opinion seems to oppose use of these drugs. Appearance of a sudden acute condition and laboratory evidence of organisms susceptible to the sulfonamides may suggest their use. Local use of these drugs in the upper respiratory tract has not yet been shown to be of value.

On the basis of experimental investigations recorded to date, sulfapyridine and sulfathiazole appear to be surpassed by sulfadiazine in the treatment of pneumococcal infections(5). Shifting to this drug in pneumonia is highly desirable, because of several important advantages: Higher concentrations are more easily maintained; intervals between doses are longer; the toxic reactions commonly noted with other sulfonamides are conspiciously mild or absent; nausea and vomiting are much less; cyanosis, dizziness, vertigo, lack of power of concentration, (drug psychoses, over reaction, malaise, headaches, renal damage, blood destruction, common reactions with the use of sulfathiazole, have all been reduced or are entirely lacking. The procedure of choice at present is to give an initial dose of 3 gm. sulfadiazine by mouth, followed by 1 gm. every four hours unless signs of toxicity appear. Treatment is continued until the temperature has remained normal for 48 hours. The total average dosage required for patients receiving sulfadiazine is about 27 gm. Where rapid elevation of the drug is desired, a 5 per cent solution of sodium salt of sulfadiazine may be given intravenously. Very ill patients with demonstrated bacteremia should receive a dose of the drug into the vein. In cases of obstinate nausea, coma, or technical difficulties, such as children, women with fat arms, and old people with inconspicuous veins, it has been found safe and effective to give a 33 per cent solution of the sodium salt of the drug intramuscularly.

Relapses occur in a small percentage of patients (5 per cent). These may generally be adequately controlled by reinstituting use of the drug. Proper supervision should consist of careful clinical observation of the patient, regular temperature recordings, a hemoglobin determination and leukocyte count at least every second day, and daily urine examinations for gross hematuria. Fluids should be given to provide a twenty-four hour output of 1500 cc. of urine. While clinical acidosis does not accompany use of this drug, the use of bicarbonate of soda may prevent some gastric disturbances and possibly renal stones(6).

A drug(7) so far known as di-amino-diphenylsulfone, a derivative of which is called promin, has been recently reported as effective against tuberculosis. The studies have been made principally with animals and with a few humans. While experiments to date show that this drug appears to be effective, further study of a larger group of patients is needed for its proper evaluation.

DOSAGE AND ADMINISTRATION

In order to obtain the most favorable results with sulfonamide drugs, they must be given in such amounts and at such intervals as to maintain adequate and constant concentration. The oral route is always the one of choice if the patient can take the drug. The tablets may be ground up and suspended in water, milk or other fluids. Apple sauce and jam have been useful vehicles in giving the drug to children. Careful studies have shown that sulfonamides should be given every four hours both day and night. Sulfadiazine is given every six hours. As a general rule it has been determined that a total daily dose of sulfonamide drugs of 0.15 or 1.2 grains per kilo will yield a blood level of 10 to 15 mg. per cent. In severe infections it is important to attain an effective level as soon as possible. Therefore, a large initial dose is recommended, to be decreased from day to day thereafter until the patient is clinically well. It is usually not necessary to make blood studies of the blood levels if the above scheme of dosage has been observed. If the patient cannot swallow tablets, due to coma or nausea, the drugs may be given parenterally, using the sodium salt of the drug chosen dissolved in sterile distilled water.

HYPODERMOCLYSIS

For sulfanilamide a solution of one-sixth molar solution of sodium recemic lactate is the recommended solvent. The daily dose is the same as the calculated oral dose. The initial dose should contain one-half the amount and subsequent doses should be given at eight hour intervals. For other sulfonamides the sodium salt of the drug is dissolved in water to make a 5 per cent solution.

Intravenous administration of sulfonamide drugs may be employed where indicated. A 5 per cent solution of the sodium salt of the drug is used. This solution is very alkaline and has a Ph of 11.5. It is very unstable and should be freshly prepared but need not be sterilized. It should be injected slowly and care must be exercised to avoid extravasation into the tissues lest sloughing occur.

During the past three years this author and associates have employed the intramuscular route of administration(8), with a 33 per cent solution of the sodium salt of the drug in sterile distilled water. This method has been employed in a series of over three hundred patients with over 1,500 injections of the drug into the muscles. The solution is given through a long 25 gauge needle deep into the upper outer quadrant of the gluteus muscle, thus avoiding the sciatic nerve and large vessels. Care is exercised to see that the drug does not escape into the needle tract upon withdrawal of the needle. This is done by grasping the needle between the thumb and forefinger of the operator as the needle is withdrawn. Although this method is not yet approved by the Council of Chemistry and Pharmacology of the A. M. A., we have shown that when oral administration is not feasible or possible because of nausea or coma or when the veins are inconspicuous or tortuous, and in children the intramuscular route is highly advantageous and safe. We have further shown that it is equally if not more effective than other routes in maintaining adequate blood levels. Prolonged intervals of administration may be employed, nausea subsides, and the patient seems to handle the drug more easily and with improved clinical results.

When the drug is given orally sodium bicarbonate may be given with advantage to prevent gastric irritation although clinical acidosis has not been found to be a serious factor, except with sulfanilamide. Fluids sufficient to maintain a daily output of from 1,000 to 1,500 cc. of urine should be given, an essential to prevent precipitation of crystals in the kidney.

Other drugs may be given with sulfonamides with no bad effect. Aspirin, barbiturates, digitalis, arsphenamine, opiates, ferrous sulphate, and others may be given without contraindication. It has been recently pointed out, however, that derivatives of novocain should not be employed along with sulfonamide drugs. Para-aninobenzoic acid, present in novocain, procain, and cocain, is inhibited by sulfonamides. For chest taps and simple skin lacerations where local anesthesia is usually employed, if sulfonamides are being given care should be taken to select a drug other than the novocain group.

No antidotes are known for the sulfonamides; water, which assists in elimination of the drug, is the most effective. With the advent of toxic signs, withdrawal of the drug is generally sufficient. Before administration it is important to inquire whether the patient, if previously treated with one of the sulfonamides, suffered any toxic effect. If so, he should be given a small test dose before full dosage is instituted.

Evidence is accumulating which strongly suggests a rational prophylactic use of the sulfonamide group used locally in ointments. The drug has already shown promise to the dermatologists. In sulfadiazine packs the obstetrician and gynecologist have found local use of advantage. Surgeons have felt that local application of the powder and also the solution of the drug in wounds, in infected fractures, and in intraperitoneal infections are beneficial. The internist and specialists in respiratory disease have been impressed by the possible gain of giving sulfonamides prior to operative procedures such as draining sinuses, tonsillectomies, and abdominal operations. Certain of these local and systemic procedures must remain "sub-judice."

SUMMARY

Widespread indications exist for the use of sulfonamide drugs. Likewise it is now known that indiscriminate use of the drug is ineffective and dangerous. It is important to select the most effective drug for the treatment of a given infection. At present sulfadiazine seems to possess all the advantages of other sulfonamides and in addition to lack many of their less desirable attributes. These drugs should be used only for the treatment of infections for which they have been shown to have a definite therapeutic effect. Because of toxic manifestations of the sulfonamide compounds, patients receiving many of these drugs should, whenever possible, be hospitalized in order to insure careful clinical and laboratory control. The use of sulfonamide drugs for ambulatory patients may result in accidents due to the incidence of toxic symtoms.

DISCUSSION

J. A. HENSKE, M. D. (Omaha): I think this is too important a subject to go by without a discussion of any kind. I was in hopes that Dr. Gedgoud would open the discussion because Dr. Hall made a statement in regard to virus infections and the effects of sulfanilamide.

First I want to call his attention to the fact that in conjunctivitis virus infections that show up in infants the second and third week if not properly treated last for many weeks and months.

By the scrapings you can find inclusion bodies made up of virus, and sulfonamide will clear up the condition in a short period of time.

Another point on influenza meningitis. We have had cases of influenza menigitis which have responded to sulfonamides. In other words, we have a treatment now so that instead of having 100% mortality, the percentage is very much less.

The same with all of the various other meningites. Another point in regard to children, Dr. Gedgoud in cooperation with others at the Pediatrics Department of the University of Nebraska, has been using the subcutaneous route of administration of sulfonamides and we have been able to obtain very much higher levels and at the same time give the child, who is usually dehydrated on entrance, a sufficient amount of fluid with the sulfonamide. We give a very small per cent. I have no time to go into the detail. We reported it at the Midwest meeting last Fall.

I hope that there are many questions in regard to sulfonamides and their use and abuse. I certainly think the subject deserves plenty of discussion.

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Aid the Doctor

Up to the present the loss of doctors from the Hastings community to the armed forces has not been felt seriously. The shift, however, has only begun here, and already there are definite signs that the number of physicians, surgeons and dentists will probably be further reduced despite a much increased number of citizens coming to the community whose families will need medical and dental attention.

The war department and navy department are determined that no efforts shall be spared to provide the best possible medical care for the fighting men in all the services. That must be the first consideration at a time such as the present.

The medical profession and educational institutions are striving to meet the increasing load. During the next three years it is estimated that medical schools in the country will graduate more than 21,000 students as a result of recently adopted programs for acceleration of medical education. This is 5,000 more than would have been graduated without the accelerated programs.

Retired doctors are coming back into harness, and other doctors are working harder. The most efficient utilization of all our medical resources is rapidly being attained.

To the efforts being exerted by the medical profession must be added the full cooperation of patients and prospective patients. Men and women should take all possible measures to safeguard their health in order that they may not need the attention of physicians. In addition, persistent care must be taken not to ask unnecessary medical attention such as unneeded house calls.

Essential medical attention should be sought and obtained promptly. It may save further care in the end, but we should all strive to spare the doctor unnecessary work.—From Hastings Tribune.

The Importance of Specification

Some physicians think it is commercial to specify a maker's name.

On the other hand, a physician of international reputation and unimpeachable standing has expressed himself as follows:

"I invariably specify Mead's whenever I can, because I feel that when I don't specify a definite brand, the effect may be the same as though I were to specify that any brand would do.

"By not specifying, I let down the bars to a host of houses, many entirely unknown to me and others deserving no support at my hands.

"When I specify Mead's I may be showing favortism, but at least I know that I am protecting my results. If, at the same time, my self-interested act encourages a worthy manufacturer to serve me better, I can see no harm in that."

Mead Johnson & Company, Evansville, Ind., U. S. A., have to depend upon the physician to specify Mead's because they do not advertise or "merchandise" their products to the public.

Cardiology as Related to Military Medicine

Part I. A Consideration of Certain Cardiac Findings and Lesions.

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The scope of military cardiology is limited by the age and the physical capacity of the individual under consideration. Except for this restricted field of application, there are no essential differences from a civilian heart practice. Obviously the occupation of soldiering accentuates certain cardiologic problems. The age group up to 36 years, or even to 45 years, is chiefly afflicted with rheumatic (Valvular) heart disease and a few congenital lesions. In the group about forty years of age, some will be the victims of syphilitic heart disease, and a still smaller number will have coronary artery and hypertensive heart disease.

In this group also, particularly under 30 years of age, a considerable number of subjects of neuro-circulatory asthenia will be found. While this condition is not primarily a heart disease, it is usually classed in this category.

The chief function of military cardiology is to establish cardiac capacity and not, as in civilian cardiology, to care for heart cases in varying stages of failure. The determination of fitness for military service is the all important function. Answers must be sought for such questions as (a) How much and how long can strain be endured? (b) Is applicant likely to break under strain? The future clinical significance must be evaluated. How will military service effect existing cardiac defects? Possibly even considering future pension claims. The care of heart cases in the military service is relatively unimportant, because as soon as the presence of heart failure is determined, the patients are discharged from the armed forces. The acceptance for military service of individuals, not eliminated by grossly apparent cardiac lesions, is determined by the evaluation of the less evident, even obscure or doubtful findings. The gross cardiac lesions are easily recognized and will not be discussed. Consideration will be limited to the less apparent and doubtful cardiac findings and lesions. Confusion as to their significance is partly due to lack of uniformity of teaching and evaluation of these findings. For instance, one group deprecates the significance of all apical systolic murmurs, another will not accept percussion as a means of establishing heart size. Also differences in ability, training and experience of examiners must be recognized.

The history is of little value. Those who for reason of patriotism, adventure, etc., are anxious to enter the military service do not relate their deficiencies. Those who attempt to avoid it exaggerate their symptoms and frequently attempt to substantiate their claims of disability by certificates from their family doctors.

SIGNS OF DISABILITY

Usually disability, sufficient to disqualify for military service, is not based on one finding, but a combination of signs.

I. Rate. 1. The rate of the heart is easily influenced by emotion and excitement. Due allowance must be made for this. Heart rates of 100, or even up to 120 beats per minute, are not uncommon in the entirely normal heart. The examiner must, with keen insight, survey the whole personality and the physique to decide whether this is only the response to environment or indicative of N. C. A., hyperthyroidism, or other cause. A word of assurance, or a period of rest, may help evaluate this finding.

2. Paroxysmal tachycardia is usually dependent on a history of extremely rapid heart action with sudden onset and sudden cessation, unrelated to activity or rest. Subjects with this defect cannot be depended on for arduous service at all times, and are rejected. This condition is not difficult to recognize if present, but as this is frequently used as a claim of disability, only a history of reliable, irrefutable evidence can be accepted.

3. The effect of drugs on rate must be considered as several medicaments as atropine, ephedrine, etc., appreciably increase the heart rate.

II. Rhythm: Irregular heart action in the younger individual is usually due to benign causes.

1. Sinus arrhythmia, which is dependent on respiratory phases, is of no pathological

significance. With the establishment of its nature it need give no further concern.

2. Extra systoles in the young individual are likewise not significant. If present, usually occur at a rate of under 100 beats per minute and disappear with exercise which increases the rate over one hundred. Over age of forty years, or even thirty-five years, the possible causes of extra systoles must be more carefully scrutinized. Use of tobacco in sensitive individuals, or excessive use in normals, is a rather frequent cause of extra systoles. Digitalis has been used to produce arrhythmias to avoid military service. If used in sufficient dosage to disturb the cardiac rhythm, coupled beats occur. Obviously several days of close supervision are necessary to eliminate this drug as a cause.

3. Auricular fibrillation must be considered a serious disturbance of rhythm, and is a cause of rejection. There may be extremely rare cases of this arrhythmia in normal hearts, but usually a masked mitral stenosis or thyroid adenoma reveals itself.

III. Size and Shape of the Heart: An enlarged heart is never normal. However, the evidence by which this finding is established is, at times, difficult to elicit. The question of heart accessibility has never been sufficiently considered, or even given serious thought. The expression refers to the proximity of the heart to the exterior of the thorax. This relationship is markedly influenced by size, shape of chest, together with the thickness of the wall. These qualities of the chest wall may interpose handicaps which entirely vitiate any attempt to ascertain heart size and shape. On the other hand, the heart may be relatively so exposed as to permit an entirely accurate outline by percussion of size and shape to which the x-ray can add nothing. Furthermore, while the x-ray furnishes considerably more evidence in the inaccessible type of heart than the entirely unreliable findings by physical examination, its value is also depreciated by these same handicaps.

IV. Apex Beat: An apex beat which can be seen or felt, or both, is the first rate sign of heart size. The army regulations in outlining the procedure of the examination of the heart indicates that the apex must be located and the character of its impulse determined. This statement found in nearly all texts of physical diagnosis and medicine expresses or implies that the apex beat (P. M. 1) can be found in all cases. Students are lead to believe that the apex beat is a diagnostic feature as apparent as the proverbial "nose on the face." It is unbelievable that this fallacy has so long and so unquestionably been accepted and perpetuated. If one will but discard this "myth" and accurately, and in an unbiased manner, attempt to locate a definite apex beat, he will find that it is demonstrable, only in less than half of young adults, and in a considerably less number in the middle aged, and rarely in the aged unless the heart is appreciably enlarged. Therefore a definitely demonstrable apex beat in the robust should arouse suspicion of an enlarged heart.

V. Percussion: The reliability of the cardiac findings demonstrable by percussion is entirely dependent on heart accessibility. This procedure cannot categorically or dogmatically be condemned or praised without an appreciation of the physics of the production of sound within the chest. The limits and pitfalls of percussion have previously been mentioned.

VI. Auscultatory Signs: Heart sounds should be carefully studied as to: (a) Intensity, normal, absent, faint or loud. (b) Quality, normal, snapping, booming, ringing, split or reduplicated. (c) Duration, normal, short or long. Frequently the characteristics of the heart sounds supported by other signs establish a diagnosis.

VII. Murmurs: Murmurs are very important signs. There is more difference of opinion concerning the significance of murmurs than any other physical sign. This is due to lack of definition of the criteria of classification, and a lack of knowledge of the cardiac mechanism. The graphic registration of heart sounds and murmurs is at present not sufficiently advanced to clarify this confusion. Evidence indicates that experiments are under way which will clarify this subject, as the electrocardiogram has brought order out of chaos regarding cardiac irregularities during the last decade.

Diastolic murmurs are always pathological, possible rare exceptions are heard in hyperthyroidism and pernicious anemia.

1. Basal Systolic Murmurs:

a. Aortic systolic, especially accompanied by a thrill, is characteristic of aortic stenosis. This indicates a grave heart lesion.

b. A loud, harsh systolic murmur heard over pulmonic usually accompanied by a thrill and booming reduplicated second pulmonic sound is characteristic of a congenital pulmonary stenosis. This lesion is of sufficient gravity to disqualify service.

c. A soft systolic murmur, heard best in recumbent position, at the pulmonary area of varying intensity, occuring most frequently in slender chested individuals, is of no clinical significance. By itself it does not indicate a valve lesion. This may be caused by the proximity of the pulmonary artery to the chest wall.

2. Apical Systolic Murmurs:

These furnish the greatest confusion and difference of opinion as to significance.

The cardio respiratory murmur, when its relation is established to the respiratory phases, can be dismissed as nonconsequential.

Other apical systolic murmurs are usually divided as functional or organic. This ambiquity would be removed if attempts of classification were based on findings, which indicate the presence or absence of valvular disease. The whole argument of the significance, whether functional or organic, is based on this fact.

The criteria for differentiating these conditions, as now usually accepted, is based on the intensity of the murmur, as proposed by Levine. Four grades of intensity seem sufficient and practical to establish this fact: (1) Doubtfully present. (2) Faint. (3) Moderate. (4) Loud intensity. The first grade does not indicate an organic or valvular lesion. This is also probably true of the second grade. The third grade probably indicates an organic or valvular lesion, and the fourth grade certainly does.

Lewis does not regard these murmurs as significant unless accompanied by other signs of heart disease, as a change in shape, size or fibrillation.

Bramwell states: "It is so rare to hear a loud murmur without finding evidence of organic heart disease, that in those exceptional cases, in which the murmur is the only abnormal finding, I hesitate to dismiss it as negligible."

The latter attitude seems a reliable guide in evaluating the significance of the apical systolic murmur.

Applicants having the earlier or lesser grades of valvular disease may tolerate arduous activity well, even for a number of years, but can be expected to become pensioners relatively early in life.

MITRAL STENOSIS

This heart lesion escapes detection in its early stages. If the obstructive nature of this lesion is kept in mind, its clinical features would be better understood, and its diagnosis facilitated. The mechanism causing its typical diastolic murmur is dependent on the size of the aperture and the speed of the flow. The quality, the intensity and the duration of the murmur indicate the degree of stenosis. A high degree of stenosis usually produces a loud rumbling murmur throughout diastole, a moderate degree manifests itself by an early and late diastolic (presystolic) rumble: A slight degree of obstruction causes murmurs only with exercise. Furthermore, with extreme exertion, as noted by Bramwell in marathon runners, even, apparently, normal valves produced an obstruction with diastolic murmurs.

The extremely "tight" eliptical orifice does not produce the usual diastolic murmur, producing only a loud, high pitched, blowing systolic murmur.

The heart sounds in mitral stenosis are never sufficiently characteristic to be pathognomic, as was formerly intimated, but are important if combined with other supporting evidence. The first mitral sound usually is accentuated with a snapping quality, which may be split, or reduplicated, producing a gallop rhythm. The second pulmonic is accentuated and frequently split.

Relatively early changes in the cardiac silhouette of mitral stenosis show a prominent pulmonary artery and pulmonary conus. These can be demonstrated by a shift of dullness to the left in the third interspace. Possibly the pulsation of the pulmonary artery can be palpated, occasionally the snap of the pulmonary valve can be felt. Increase in actual heart size is a late sign of mitral stenosis, after other signs are more evident. Hemoptysis is a frequent sign of mitral obstruction. This may occur even in less pronounced cases with extremely severe exertion.

Editor's Note: Next month Dr. Niehaus will discuss Neurocirculatory Asthenia.

War Casualties at Home and Abroad*

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Our country is now involved in the greatest armed conflict of all times; a war of such magnitude that to date no satisfactory name has been found to do it justice. Our English colleagues have accepted the term "total war" for well over a year. They, as the Chinese before them, have endured this new type of conflict which makes no distinction between sex or age, weak or strong, combatant or non-combatant.

Armed conflict has been the greatest cause of mass injury throughout the ages. Present at every siege, on every battlefield and in the sick bay of every fighting vessel has been that small group of men responsible for the care of the wounded. The history of surgical progress closely parallels that of the military campaigns engaged in by warring nations. Necessity has always served as a stimulus to the medical profession.

Prior to the present war, the great conflict of 1914-1918 stands out as the greatest recorded struggle. During those years the medical men of the combatant nations met and solved innumerable problems, establishing surgical principles which are now accepted and utilized in our daily practice. To memtion a few, this period saw the introduction of the Thomas Splint and the rational transportation and care of the fractured extremity, the acceptance of the principles of debreidmont in the care of contaminated wounds, advances in traumatic surgery of the abdomen and chest, the establishment of a rational treatment for empyema thoracis and a rapid development of surgery of the central and peripheral nervous system. It must be conceded that surgical progress was accelerated as a result of this conflict. Can we then anticipate some of the new problems which the profession will be called upon to meet in this war? A brief review of the published experience of those who for over two years have been involved in combat is therefore of interest.

The indiscriminate bombing of cities introduced by the Japanese in China, developed during the Spanish War, and brought to its highest state of perfection over Rotterdam and during the Battle of Britain, has introduced into this war problems never before encountered. The front line has suddenly been placed anywhere within the cruising radius of the largest bomber. Gordon-Taylor(1) summarized the type of injuries most frequently seen during the London blitz as follows:

1. Crushing injuries of the trunk and abdomen with all degrees of parietal, intra-abdominal and thorasic injury.

2. Extensive multiple lacerations from flying glass.

3. Multiplicity characterized wounds and damage sustained from air bombardment.

4. Shock has been much more common and serious among the casualties in this war.

5. Blast injuries.

Blast injuries were occasionally observed during the first great war in those individuals who were close to the burst of high explosive shells, yet were not hit by flying fragments. Hooker(2) in 1918 observed a syndrome of primary shock with associated pulmonary and abdominal hemorrhage in patients and in experimental animals exposed to blast injuries. However, he concluded that those who survived the circulatory collapse from violent air concussion could not be distinguished from those with primary shock seen following traumatic concussion in civil life.

In 1940 Zuckerman(3) demonstrated experimentally that animals exposed to an explosive force were injured in degree dependent upon the force and proximity of the blast. He pointed out that the pressure component of the blast was the force which injured the lung and viscera by its impact on the chest and abdominal walls. King and Curtis(4) have recently published experimental and clinical studies in which they agree that the pulmonary lesions are resultant from the impact of the pressure component of the blast wave on the thoracic wall, and not from the subsequent suction as formerly held. Robb-Smith(5) suggests that pulmonary fat emboli may be responsible but this view is opposed by O'Reilly and Gloyne(6) and King and Curtis(4).

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Any person who is unprotected and within approximately 150 yards of an exploding aerial bomb, even though untouched by fragments or falling masonry, may sustain a blast injury. Respiratory embarrassment and dyspnea develop, varying in severity from a slight degree to almost complete arrest, and cough and hemoptysis are noted. Abdominal symptoms are common and may be resultant from parietal laceration or hemorrhage, rupture of the bowel, solid viscera, or retroperitoneal hemorrhage. The cerebral symptoms vary from a mild state of stupor to deep coma, due to sudden back pressure of venous blood into the brain with resultant hemorrhage. Pathologically the lungs show pulmonary congestion which may be patchy or diffuse, resembling an early pneumonia. Microscopically there is an outpouring of red blood cells, and a widespread rupture of the elastic tissue and capillaries. Bronchiopneumonia from secondary infection is a frequent complication in cases which survive for brief periods.

Prevention of this form of injury is more important than treatment and consists principally in being outside the immediate zone of this advancing air current. If air raid shelters are not available, lying prone offers some protection and experience shows that the back withstands these high pressures much better than the ventral surface of the trunk. Experimental animals are adequately protected by a layer of sponge rubber placed between them and the blast and perhaps some practical application of this fact may be worked out.

Treatment demands recognition of the condition, absolute rest of the patient and oxygen therapy when available. A striking feature is the marked shock which is commonly present, and out of all proportion to visible injury. This shock must be treated energetically with all available means. The frequent association of multiple wounds in patients with blast injuries has to date resulted in a high mortality.

Tremendous strides have been made in the prevention and treatment of shock since the last great war. The profession as a whole now appreciates the prime importance of absolute rest warmth, adequate sedation and restoration of blood volume in these critically ill patients. The availablity of large amounts of banked blood and blood plasma must be assured, not only with combatant troops, but in those areas vulnerable to bombing. Schattenburg(7) states that in Honolulu prior to December 7th there was a stock of 200 flasks of blood plasma but this amount has since been increased to 5,000 flasks in anticipation of a further demand. Moorhead(8) in his recent report on the surgical care of the wounded at Pearl Harbor observes that even better results might have been obtained with more adquate preoperative shock therapy. The development of a practical means of preparing and storing dried plasma marks a real advance in the treatment of shock following major traumatic injuries. Only in such a form can adequate amounts of plasma be available for prompt administration in these days of highly mechanized mobile warfare.

An increasing number of reports from medical officers with the Royal Navy describe a type of compression injury of the abdomen resulting from the underwater explosion of torpedoes or depth bombs. The victims in many cases were in the water when a second torpedo or depth charge exploded nearby, producing a type of blast injury.

Breden, d'Abreu and King(9) have reported ten such patients with one death. The pathology was limited to the abdomen in nine instances, the fatal case showing an associated blast injury in the chest. Hemorrhage into the bowel and beneath the peritoneum, laceration of the bowel, and pelvic abscess in late cases are the principal findings. The typical symptoms are abdominal pain, tenderness and rigidity, hematemesis, melena and testicular pain. Seven of the ten cases recovered without exploration while those with obvious perforations required surgical repair. None of the series showed any external signs of violence.

The treatment of large numbers of contaminated and infected wounds has always been the responsibility of the military surgeon in time of war. In the present conflict widespread bombing of cities far removed from the battle line adds the care of these war casualties to the duties of the civil surgeon. During the first world war the fundamental principles governing the management of these wounds was firmly established. The teaching of Koch(10), Moorhead(11), and many others has gradually led to the adoption of these sound surgical principles by the majority of surgeons in civil practice.

Koch(12) has recently cautioned that we will soon again hear the term "War Surgery" popularized with a demand for new teching, refresher courses, and postgraduate training. He suggests that we rather employ the term "good surgery" since nothing less will be adequate and the essential requirements are the same with both military and civil casualties.

A unique clinical experiment in the management of a large group of recent contaminated wounds was carried out following the Pearl Harbor incident. A definite plan of treatment was outlined by Moorhead(8) in an address to a large percentage of the medical personnel in Honolulu on December 5th. His suggestions were as follows:

1. Morphine grs. ¼ to ½ immediately except in head cases.

2. Tetanus antitoxin unless injured previously protected.

3. Adequate cleansing of wound and adjacent skin with soap and water.

4. Thorough debreidment fulfilling the three essential requirements.

5. Absolute hemostasis.

6. Dusting entire wound surface with one of the sulfonamides.

7. Packing wound with plain gauze for three days.

8. Stay sutures were occasionally introduced but not tied.

9. Sulfonamide grs. 90 daily for three days.

10. No redressments for two or three days.

The results were spectacular in this series of cases in which the majority were cared for within six hours after their injury. Pus was conspicious by its absence. No tetanus of local or general type developed. The postoperative mortality in the entire group of casualties was 3.8%.

Cloward(13) reporting on the head injuries in the same engagement was equally impressed by results employing these same general principles. In numerous head injuries requiring exploration it was impossible to carry out a craniotomy for as late as 24 to 48 hours after the injury. The emergency treatment of the wounds included soap and water cleansing of the skin about the site of entrance, packing all wounds and tracts with sulfanilamide and applying a sterile dressing. Meningitis and brain abscess were not observed after this preliminary treatment in those patients who could be operated within 48 hours.

There were a few cases of gas bacillus infection observed at Pearl Harbor but the exact number is not available. Moorhead(8) states that in every instance these occurred in wounds which were more completely closed than had been advised. These patients were treated by secondary debreidment, sulfanilamide in the wounds and repeated x-ray exposure. There were no reported deaths from gas bacillus infection.

With adequate surgery, the value of the sulfonamide group of drugs in preventing the local development of pyogenic infection in contaminated wounds is well established. Evidence is accumulating that they are also of assistance in preventing the growth of anerobes, particularly B.welchi. Reed and Orr(13) have recently reported from experimental studies in animals that the sulfonamide drugs are effective in locally combating anaerobes in the following order: (1) Sulfathiazole, (2) Sulfadiazine, (3) Sulfapyridine, and (4) Sulfanilamide. Roentgen therapy, as advocated by Kelly and Dowell(14) in the prevention and treatment of gas gangrene, is of real value in the care of these patients. The development of small portable therapy machines should make possible this form of treatment in many areas where formerly its usefulness would have been limited.

Amputations will be necessary in this war as in every previous one, but it is to be hoped that by good surgical care the relative number may be reduced. The principal reasons for sacrificing a limb are uncontrollable infection and extensive loss of tissue with severance or thrombosis of the major arterial supply. The classical work of Murray(15) in demonstrating the clinical effectiveness of heparin to prevent an extension of a thrombus will undoubtedly be further developed. One may reasonably expect more successful results following the surgical repair of injuries to the major vessels of the extremities, with a resultant saving of limbs.

Gallie(16) has recently reported his experience with amputations in the Canadian Army during and following World War I. In a series of 2,000 soldiers requiring amputation of the lower extremities, four types were used. The Syme and the mid-calf below the knee were employed and the Gritti-Stokes and the mid-thigh above the knee. Gallie(16) speaks very favorably of the end results with the Syme amputation through the lower ankle and the same opinion is expressed by Wheeler(17) from his experience with the British Army. The mid-calf and the mid-thigh amputations have been rather universally unsatisfactory for comfort or fitting a suitable prosthesis. When the entire leg was sacrificed the Gritti-Stokes amputation proved the most serviceable.

Burns have held an increasingly prominent place in the war casualties reported in this conflict. In Britain they have been very common among sailors, airmen, and the civilian population during the blitz. Increasing mechanization with ever present gasoline or fuel oil and the general use of the incendiary bomb will inevitably make this type of casualty more frequent.

Modern burn therapy dates from the introduction of the tannic acid treatment by Davidson(18) in 1925. The last 17 years have seen a much better understanding of the abnormal physiology and pathology of burns, together with the introduction of many modifications of the original tannic acid method. The basic principles of treatment in burns demand immediate control of the shock, correction of hemoconcentration, prevention of infection and early closure of all open areas by skin grafts. It must be constantly emphasized that a second or third degree burn is an open contaminated wound in a patient who demonstrates a seriously altered blood picture typical of this type of injury. If these facts are appreciated and adequately treated, any one of several methods of specific treatment may be used with excellent results. In England Wakeley(19) reports that the accepted form of local therapy to date has been triple aniline dye containing gentian violet, brilliant green and flavine, followed by 5% tannic acid. Extensive oil burns, seen principally among sailors, have been treated by continuous saline baths. Until recent months the most popular topical applications in America have been a combination of 5% tannic acid with either 10% silver nitrate or 1% gentian violet. Recently Allen(20) has advocated the application of vaseline gauze strips and a voluminous pressure dressing after asceptic surgical preparation of the burned area. The dressings are not disturbed for two weeks after which time any areas which remain open are covered by skin grafts. This method, originally used with great success for burns of the hands, is now gaining wide popularity for extensive burns in other areas.

The results in burn therapy among military casualties will probably remain inferior to those acceptable in civil practice. The all important element of time until adequate treatment can be given determines the results which may be expected.

Casualties in this war will be by no means limited to those received in actual combat. For the first time in history troops will be in the field in every section of the world. They will of necessity be exposed to a large number of diseases endemic to the region of operations and entirely foreign to their homeland. In spite of the sanitary precautions employed and immunization against typhoid, para-typhoid, tetanus and yellow fever, medical casualties in large numbers may be expected. Malaria, dengue, bacterial and protozoan dysentery, and typhus are likely conditions to be anticipated.

Some years ago Boyd(21) in describing the spread of influenza stated, "It travels at extraordinary speed, but not quicker than the speed of man. It crosses a continent as fast as an express train, the ocean at the rate of an Atlantic liner, and the desert as slowly as a camel caravan." To this we must now add modern air travel. Within the past three months malaria has been seen in Idaho and dengue in Nebraska. Both patients were exposed to their infection in Africa or the Near East, returned to America by bomber, and developed their first symptoms in peaceful rural communities. The medical man of today has good reason to again review a score of diseases long since eliminated from serious consideration. They with their surgical colleagues will undoubtedly improve the old and learn much that is new, for in the words of Sumner Koch, "Great emergencies arouse both men and nations to great effort."

(Bibliography in Reprints)

The Office Treatment of Anorectal Fistulas*

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A fistula is an unhealed abscess cavity with at least two openings. An anal fistula will have one or more openings in or above the anal canal and another or others above or external or lateral to the anal canal. The usual finding is an opening in the anal canal and a second opening on the skin surface. When an abscess occurs at the anal margin, the cavity contracts and there remains a fibrous tract between the point of infection and the point at which the abscess opened. This is a fistula. Most so-called blind fistulas both external and internal have a second opening, if you but know where and how to demonstrate it.

In the treatment of any fistula about the anal margin one should have a thorough knowledge of the treatment of abscesses in this region, since fistulas are unhealed abscess cavities. The etiology of a fistula therefore is the same as that of an abscess in this region.

ETIOLOGY

In the past the eitology was thought to be the entrance of infection as a result of trauma either to the external skin surface or to the anal mucosa. Infection was also thought to gain entrance through hair follicles, sebaceous glands, and Lieberkuhn's follicles. Perforations of the mucosa or skin surfaces were thought necessary, and we do know that abscesses do arise following puncture wounds from bones, pieces of tooth picks, and pins which have been swallowed and become lodged in the anal canal.

As early as 1903, Tuttle said that infection of the crypts of Morgagni could be the cause of an ischiorectal abscess. In 1938, Tucker and Hellwig demonstrated anal glands and anal ducts which were not directly connected with crypts but were present in the tissues surrounding the anal crypts. Since this explanation, it seems logical to conclude that most anal infections originate from infection in the crypts, which extends to the anal glands and anal ducts and into the para-anal lymphatics. This etiology explains the occurrence of fissures, ulcers, abscesses and fistulas. With proper knowledge of the cause, the treatment is simplified. If this explanation is correct, the opening near the anorectal line is probably the primary focus of infection in a fistula, and treatment should begin at this point; so in order to properly treat a fistula its internal opening must be found.

The incidence of tuberculous fistulas is between 5 and 10 per cent of those seen in a large group of cases. The tuberculous fistula differs greatly in its appearance from the non-tuberculous type. Clinically they are usually found in an emaciated individual. The ischiorectal fossae are depressed for want of fatty tissue, there is an excessive amount of long silky hair over the buttock, and there is a loss of sphincter tone. The fistula begins usually as a chronic abscess with very little or no pain and the discharge is a profuse thin white watery or thin milk like discharge. The external opening or openings are large and ragged and irregular in form. The skin is bluish in color and unhealthy in appearance. The internal opening is large and admits the tip of the finger easily and the tracts are soft and feel like a gutter or depression in the tissue.

SYMPTOMS

The acute symptoms of a fistula are those incident to the formation of an abscess, i. e. pain, chills, fever, swelling, urinary retention, and usually the discharge of pus either within the rectum or on the skin surface. The chronic abscess or fistula may not produce many symptoms, except at intervals when either the internal or the external opening or both become closed and produce swelling and pain. Chronic tracts secrete pus and mucus constantly, and if it empties into the rectum, it may go unnoticed for many months or years; but if the discharge is external, the patient complains of an excessive amount of moisture or discharge about the anal margin and usually some local soreness. Rarely is there any bleeding. Anal spasm is present and a slight pain at stool may be noticed. Also the patient frequently complains of the presence of a lump or a hard place in the anal region which may be sore to touch or it may cause discomfort when sitting.

EXAMINATION

The external opening is characterized by a nipple like mass of granulation tissue covering or surrounding the orifice which is in the center or at one side of the mass. It may be but a small pin hole like opening in the skin and there may be no opening but a small raised epithelized area which when punctured excudes pus. When an external opening is found, careful palpation will usually demonstrate a cord like structure or fibrous tube leading toward the bowel. If you will grasp the tissue about the cord, the fistula tract can be lifted between the fingers and be traced to an anal or rectal opening.

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Most internal openings are in or just to the right or left of the mid line posteriorly. Internal openings are usually single, but when more than one is present, the usual distribution is one at the anorectal line and one in the mucosa directly above. External openings are frequently multiple and when so usually communicate.

The internal opening is felt or palpated as a slight depression or as a small bead like induration. Occasionally granulation tissue or a polyp or an enlarged papilla will cover an internal opening. Granulomatous like nodules occur more frequently over mucosal openings which are above the anorectal line.

The external appearance of a fistula is no index as to its extent. Some of the simplest from external appearance may be the most difficult to treat. The extent of an anal or rectal fistula cannot be determined definitely preoperatively. The location and ramification of fistula tracts cannot be determined definitely without laying them open and seeing the bottom or the walls of the abscess cavities, and this cannot be done without good anesthesia. Do not make a prognosis until a proper and complete examination has been made, and do not attempt to examine these fistulas without anesthesia. These patients have usually been tortured by probing and poking and avoid seeing a surgeon lest they be subjected to another painful examination. So why probe, other than to demonstrate that there is a sinus present. No other knowledge is gained and the patient is usually hurt.

When an anesthetic has been administered, the procedure for examination is definite. Forcible stretching or divulsion should not be done. With good anesthesia the sphincter muscle should be completely relaxed. After relaxation of the sphincter, pus will frequently appear at the ano-rectal margin, when previously no evidence of an internal opening was present. This is most frequently so when a marginal abscess is present.

The injection of dyes and pastes for examination is of little value, except, at times, to demonstrate openings and occasionally the injected media will assist in locating the lateral tracts if they are present. I prefer to use bismuth paste if the tract is injected.

TREATMENT

As a general rule fistulas are poorly treated. Upon study of the subject one comes to the conclusion that very few fistulas should be operated in the office. Those classified as subcutaneous and submucus and demonstrated as such, can be infiltrated with novocaine and incised in the office. Fistulas involving deeper tissue should be operated in the office only when facilities are the same as those obtainable in a hospital.

Palliative Treatment. This should be symptomatic. Keep the tract draining and have the patient use hot sitz baths at home. Local application of ointments and poultices are of little value.

Non-operative Treatment. This consists of the injection into the tract of escharotics, such as saturated solution of silver nitrate and pure phenol and secret (?) formulas. The substances which are injected are supposed to disinfect the tract and destroy the granulation tissue, but drainage is always inadequate and healing seldom takes place. It is moreover a very painful procedure. Bismuth paste is often injected and occasionally a superficial fistula may subside or become inactive, but I do not believe that it heals. Non-operative methods suggested in the past are really operative procedures. They consist of the use of the seton, the elastic ligature, and electricity. The ligature method is painful and unsatisfactory. Electricity destroys tissue which must slough away, and it seems wiser to incise tissue cleanly than to cauterize it with electricity and to depend upon a sloughing process.

GENERAL RULES

When operating a fistula, always excise tissue for microscopic examination as this may be the first means of recognizing tuberculosis and cancer. When more than one fistula is present, treat but one at a time unless they are superficial. Multiple external openings can nearly always be made to communicate. When hemorrhoids are present they interfere with the healing process. They should be removed even in the presence of pus.

A regional or block anesthetic of some type is prefered over either. This is specifically so if there is any suspicion of tuberculosis. Infiltration anesthesia should not be used because of the possibility of spreading infection and because of incomplete relaxation. Ether or gas anesthesia may be used when other methods are contra-indicated. I prefer to use sacral anesthesia, providing there is no infection in the sacral region. Spinal anesthesia will give the same muscle relaxation as a sacral block but is not as safe. It occasionally produces headaches, and the patients cannot be out of bed and on their feet as quickly as when a sacral is used.

The patient should come to the operating room with the lower bowel empty. This is best accomplished by having the patient take a light diet on the day previous to the operation and by having the bowel washed out with normal salt solution until the enema returns clear. No enemas should be given on the operative day. Preliminary sedation will be that which is usually used for either general or sacral anesthesia. The operative field should be prepared with the same care that one uses in preparing for an abdominal operation. It is true that the field does not remain sterile after the operation is started, but the technique should be aseptic technique.

Position of the patient is an individual matter. Most surgeons prefer the lithotomy. Some prefer the lateral position, and others the prone position with the hips elevated. The location and the extent of the fistula should to a certain degree determine the position in which the patient is to be placed. Patients with a fistula on the perineum should be in the lithotomy or jack-knife position so that the perineum is flat. Patients with fistulas which are posterior to the anus should be placed in a lateral position to obtain the best exposure. Adequate exposure of the field simplifies the operation. Good lighting is provided best by a spot light placed over the left shoulder and shining directly on the field.

PROGNOSIS

How long does it take a fistula to heal? Usually from three weeks to three and sometimes six months. Simple tracts heal quickly. Deep complicated tracts sometimes require months to heal.

The prognosis depends upon the pathological nature of the fistula, the constitutional condition of the patient, and the amount and the structure of the tissue involved.

COMPLICATIONS

The complications may be divided into two main divisions, immediate post-operative and secondary complications.

1. Immediate post-operative complications:

a. Bleeding. Some fistula wounds are large and we are hopeful that the packing will control all bleeding areas, but I believe that all bleeding areas should be ligated before the final packing is placed in the wound. Bleeding vessels should be tied, not cauterized.

b. Urinary Retention. Because of the inflammation in the perineal region and because of the packing, many of these patients require catheterization, but as soon as they are allowed to sit in the hot bath, they usually void without difficulty.

c. Pain. When all infected areas have been opened and adequate drainage has been secured, patients are usually comfortable. Immediate and persistent post-operative pain means that the fistula tract has been incompletely or inadequately opened. The onset of pain in the wound after the first twelve hours following the operation upon an uncomplicated fistula is always suggestive of extension or burrowing of the infection. The finding and excision of the internal openings is probably the most important step in obtaining a cure. While the location of the internal opening is most important, care must be exercised that you do not leave lateral tracts. Whenever there is persistent draining and soreness, you must conclude that some area has not been completely drained.

2. Secondary complications:

a. Failure of the wound to heal. The causes of failure to heal may be listed:

1. Adequate operation but inadequate after-care.
2. Failure to locate internal openings.
3. Failure to open lateral tracts.
4. Failure to recognize bone caries in the sacral region.
5. Presence of tuberculosis.
6. Presence of cancer.

b. Incontinence. Incontinence is usually a nightmare to the profession when an operative procedure is suggested; it is the stumbling-block to the patient suffering from a fistula, and it is the shibboleth of the charlatan by which the patient is frightened away from the surgeon and is induced to be content with palliative but not curative treatment.

A large majority of cases of incontinence following operations could be avoided, if the sphincter muscle were cut squarely across, and the tract dissected out and the ends of the muscle sutured together. If it should be impossible to suture the severed ends, the dressing should be so placed as to produce as little separation of the muscle as possible and the packing should be removed early so that the muscle defect can fill in as rapidly as possible.

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Colic in Infants*

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Colic is one of those conditions with which we have to deal in the practice of medicine which is exceedingly troublesome but not dangerous. It is a very common symptom among infants and its relief is important from the standpoint of relieving the baby's distress and winning the parents' confidence and gratitude. I have heard some physicians, and very capable ones too, say that there is no such thing as colic. Of course they mean that there is not a disease entity known as colic. Naturally colic is a symptom, not a disease entity and this splitting of hairs confuses the laity. Colic as I use the term, in this discussion, means paroxysmal abdominal pain of gastro-enteric origin.

Dr. Neff says, "Colic is a common manifestation found during the early part of infancy, is a paroxysmal manifestation of intensive crying which has been assumed possibly without any method of proof, to be due to abdominal pain . . . It will add to a better understanding of the management of infants if the condition is recognized as a hypertonic period through which most infants pass. Its paroxysmal nature seems to be related to frightening or startling."

The causes of colic in infants may be divided into four groups:

1. Hypertonic Type of Infants.
2. Digestive Disturbances.
3. Environmental Distrubances.
4. Organic Abnormalities, congenital or inflammatory.

HYPERTONIC TYPE OF INFANT

While all infants pass through a hypertonic stage and have some colic these particular babies have such marked hypertonicity that colic is constant and severe. These are the babies who nearly wreck the household and put grey hairs in the doctors head. Regimes may be changed and diets switched back and forth with only temporary relief. Occasionally these babies may be relieved by putting them into a well ordered and managed nursery. This type of baby may be recognized by its sharp nervous response to noise or sudden light, its vigorous crying when getting its bath or when urine is passed, or the bowels move. There may be a pylorospasm or a spastic type of constipation. The actual crying in these babies is, certainly, not always due to abdominal pain but is an exaggeration of the "startle" reflex which is seen in the normal baby when the table is suddenly struck with the hand. However, many of the colic attacks, especially those coming on after eating, are due to pain.

A possible theory for colic of this type would be a failure in coordinated contraction and relaxation of the intestinal segments in peristalsis. Any factor which would produce peristalsis causes a severe contraction. This causes a spastic obstruction, with intestinal distention proximally, with resulting pain. "A rational explanation of colic," according to Dr. Brenneman "is found in the fact that the baby comes into the world more underdone than the young of other mammals; that its intestinal tract is not yet equal in the earliest months to an unusual or even normal demand, either in matter of digestion or of propulsion of gaseous contents that as a result the overdistended intestines become kinked and acutely obstructed at the bends."

It seems to me that spastic obstruction fits the case better than mechanical obstruction.

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Many of these babies do not have sufficient general distention to cause a mechanical kinking. Most of them will respond to atropine or phenobarbital.

DIGESTIVE DISTURBANCES

Digestive disturbances may be a factor in producing colic in the hypertonic infant but in the normal infant it may also produce colic. Among these factors are:

a. Overfeeding, with flatulence.

b. Underfeeding, with hunger contractions.

c. A poorly balanced diet as high fat or high carbohydrate.

d. Allergy to certain foods.

Overfeeding is not a usual cause for colic unless it is very marked. In these days of very early feeding of cereals and vegetables I have noted it occasionally associated with spitting up and loose, undigested bowel movements. Overfeeding as a result of too frequent feeding causes gastric residue, gas formation, and gastric distress. Underfeeding is much more apt to be a cause of crying than overfeeding. However if a baby is gaining normally, it is not being underfed and the feeding should not be increased simply because the baby cries. If food is very high in fat or carbohydrate, digestive diisturbances occasionally occur. In the case of high fat, spitting up and fatty diarrhea or obstinate constipation with soap stools are noted. In high carbyhydrate we may again have spitting up and loose, foamy stools with marked flatulence. In both conditions the baby is fretful and has spells of colic.

FOOD ALLERGY

Babies may have an allergic reaction to certain foods with a resulting colic or general distress. In these babies there are often allergic manifestations such as eczema. In many a general distress or abdominal pains are the only manifestations. I have seen this with cow's milk, with cod liver oil and with orange juice. Usually foods eaten by the mother has very little effect, but I have had cases where I felt there was a very definite connection between something the mother had eaten and the spell of colic in the infant.

ENVIRONMENTAL FACTORS

The environment of the baby is a very important factor in the development of colic. As we have noted every baby in its development passes through a certain stage of increased reactivity to stimuli. If the environment is such as to heighten or prolong that period, a fussy, colic baby results.

One of these environmental factors is the nervousness of the parents. The father and mother of a first-born baby are to be excused if they are nervous. In these days of small families the older children are not familiar with the babies in the household and consequently when their own first born arrives, they are face to face with an entirely new problem. Advice is poured out to them from friends, grandparents, news articles, books on how to raise babies, radio talks, etc., until the whole subject seems terribly complicated. The result is there is nervous reaction on the part of the baby which makes the condition worse.

Perhaps the baby is uncomfortable from a bubble of gas in the stomach and cries. It is picked up and bounced around until it really becomes sore and yells in earnest or, perhaps, following the strict orders of the doctor or nurse it is allowed to lie in the crib, it is taught self-discipline. It continues to be uncomfortable, it continues to cry and it may take in more air, and the crying continues. Eventually the gas is eructed or passes into the intestine and the baby falls asleep to be awakened for its next feeding just about the time it has settled down.

I have seen this problem in reverse also. Following instructions that it is always necessary to get the baby to erupt gas during and after feeding I have seen babies taken away from the feeding every few moments and held up and thumped on the back, even though the baby was nursing along very comfortably. This is not conducive to the calm, quiet nursing which the baby should have. It isn't necessary to arouse the baby thoroughly after a nursing in order to get it to belch unless it seems uncomfortable.

There are a number of conditions which increase the normal hypertonicity of these babies such as uncomfortable clothing, chilling, too much fussing with the baby, etc.

CONGENITAL MALFORMATION OR INFLAMMATORY CONDITIONS OF THE GASTROINTESTINAL TRACT

These are important in the differential diagnosis of the causes of crying and perhaps should not be considered as causes of infantile colic; appendicitis intestinal obstruction, inflammation of Meckel's diverticulum, acute infectious diarrhea, reflex abdominal pains from respiratory infections, congenital heart disease, anal fissure and other conditions of similar type cause abdominal pains. There is usually a distinct difference in the manner of onset, the time pattern and the accompanying symptoms and physical findings which will differentiate these pains from ordinary infantile colic.

DIFFERENTIAL DIAGNOSIS

Just because the baby cries it is unwise to assume that it has colic. A complete examination and a careful history are necessary in order to rule out any organic condition. After these have been eliminated it is necessary to find out what causes the colic.

By an examination one can tell the type of baby one is dealing with. It is necessary to obtain details about the feeding, the kind of food, how prepared, how fed to the infant, the baby's reactions during feeding, the rate of gain, the bowel condition, whether or not laxatives are being used, or, if breast fed, whether the mother is taking any kind of medicine; also in the latter case, the habits of the mother.

After this one must study the environmental factor. For example, in some the crying comes immediately after eating, in others one to two hours after eating, in still others in the late afternoon and evening hours and in some only at night. I had one baby who was colicy on Saturday and Sundays when the older children were home from school creating a general uproar around the house. Another case I call to mind is a baby who was colicky during the time when the father was home. He loved to play with the baby and kept pestering it one way or another.

After one has gone into conditions thoroughly one may find that there are certain percentage whose colic remains baffling.

In general, however, the results of treatment will depend on the thoroughness of the examination and the ability to bring about a change in conditions.

One has to deal not only with the baby and his stomach ache but with a nervous, tired mother, a somewhat bewildered, and half angry father, an anxious grandmother and the kind hearted panacea-bearing neighbors and friends.

To adequately handle the case, the complete confidence of the parents must be obtained by:

1. A careful history and examination of the baby.

2. Explanation to the parents what the trouble is believed to be.

3. Discussion with parents and written details on the general care of the baby including feeding directions.

4. The mother should report or the baby be seen often enough to watch the growth and development.

5. If necessary the infant should be put in the hospital for a period of observation.

6. Drugs when indicated.

These are three drugs which I have found valuable in treating colic:

1. Atropine Sulfate. I use this in the type of colic associated with pyloro-spasm, tight spastic anal sphincters and in some general hypertonic infants. I usually prescribe 1/1500 grain atropine before each feeding. Occasionally there are reactions but in properly selected cases the results are rapid and definite.

2. Phenobarbital. This is particularly valuable in the hypertonic child. The dosage is from 1/16 to 1/8 grain. I usually use the Elixir of Phenobarbital ¼ to ½ teaspoon. In some cases I have seen this excite the child rather than quiet it.

3. Paregoric. I seldom use paregoric but in some cases I use it temporarily to break the vicious circle or to give the child some rest at night so that the other treatment will have a chance to produce results. I usually give small doses of 5 to 10 drops in one teaspoon of warm water. One objection I have to paregoric is that it constipates. I think that it should be emphasized that drug therapy has its place in the treatment of colic but should never replace treatment based upon a careful determination of the cause of colic.

The Cass-Sarpy Counties Public Health Program

L. E. KLING, Asst. Surg., U. S. P. H. S.
Director, Cass-Sarpy Health Unit

The Cass-Sarpy Health Unit was organized by the State Health Department in July, 1941, to meet the health needs arising in the defense area around the Martin Bomber Plant.

Our personnel consists of a Medical Director, Sanitary Engineer, three nurses, and a clerk. Their services cover Cass and Sarpy Counties; an area of 882 square miles with a population of 28,000.

The fundamental aim of this local full time health unit is to conduct a sound public health program and become a permanent part of the community.

At first it is quite natural for the general public to have misconceptions with respect to the activities to be carried out by such a unit. Some people are of the opinion that the function of the local health unit is to render medical care. Before this unit was fully established, a few people in the area openly expressed this idea. No wonder the doctors were a little cold and suspicious when the unit personnel started out to get acquainted. We assured the local doctor, that we came, not to absorb his practice, but to work with him, and to convince the community that the health unit could not give medical care even to the indigent.

To do this, we sought first a health activity which would bring about the cooperation of the doctor and the community for mutual benefit, and at the same time allow us to get in rapid touch with many people in various parts of the area. A survey conducted by our unit through the schools revealed about 20 per cent of school children and only 5 per cent of preschool children protected from diphtheria and smallpox. Most of these had been immunized during the last "diphtheria scare" in 1937. Our reports showed a steady decline in the number of immunizations until in 1941, 3,200 reports showed only 27 immunizations done in Cass and Sarpy Counties.

With the cooperation and approval of the local medical society immunization for smallpox, diptheria and tetanus was offered to children between the age of six months and twelve years, at a nominal cost to the family, according to the following plan.

1. The State Health Department to furnish the smallpox vaccine and combined Alum ppt. Diphtheria and tetanus toxoid.

2. The local health unit to furnish supplies and equipment to set up the clinic, and a nurse to help the doctor.

3. The local doctor to do the immunizations at the school, to be paid in full at each clinic.

4. At the first clinic the child to be vaccinated and to receive 1 cc. of the combined diphtheria tetanus toxoid.

5. Two months later, the child to receive the second inoculation and be re-vaccinated if necessary.

6. Clinics to be held for individual doctors and all families to be given freedom of choice as to the clinic which they would attend.

The Health Officer demonstrated the multiple pressure method of vaccination at each clinic. In one community one doctor used the approved technique and another retained the outmoded "double cross" method. Nine days later those children who received the "double cross" had pustules varying in size from a quarter to a half dollar. All the other children had pustules about the size of a split pea. The difference was so apparent that almost all the children returned to the first doctor for their second injection of toxoid. The proper method of vaccination was accepted at all subsequent clinics.

To create public interest, members of the unit met with civic organizations to discuss the program. In contacting the lay public the terms, "massvaccination" and "consent slips" were not mentioned. A "request slip" was sent into each home accompanied by a letter to the mother saying that we would be glad to make arrangements to have the local doctor give her children this protection at a clinic to be held at the school. If the parent could not pay the approved charge, part payment would be accepted and some civic organization would make up the difference.

School boards and local organizations were quite willing to pledge support when they were assured that all families would pay as much as they could afford.

After the first few clinics the demand for our service was so great that promotional work was almost unnecessary. Our unit was no longer asked why we did not treat people; now they ask, "How long will it be before your unit will come to our community. We believe in this type of protection, but until now we have been unable to afford it."

Voluntary payments by the families were about 90 per cent; the rest was made up by the school boards and local organizations.

When the clinics were finished, the local doctors had completed 3,306 smallpox vaccinations and 3,353 diphtheria inoculations.

In every community in which clinics were held, over 80 per cent of unprotected children between the ages of 6 months and 12 years were immunized. Some communities responded 100 per cent.

Reporting of communicable disease in the Cass-Sarpy Area was scattered and very incomplete. During the first 6 months of 1931 the state department received 6,646 morbidity reports; 20 of these were from the Cass-Sarpy Area. Based on the 1940 Census figures, this represents less than one morbidity report per 1,000 population for the Cass-Sarpy Area, and five reports per 1,000 population for the rest of the state.

The doctors in this area were contacted separately, and as a group at the County Medical meetings with regard to reporting, but we had little success. The most legitimate excuse appeared to be that making out individual reports on 8 or 10 cases was too much effort after 14 to 16 hours of rural practice. The local health unit instituted an informal method of reporting. Cards listing the reportable diseases were sent to the doctor, and he was asked to check the number of cases he had seen and mail the card back to the unit each Saturday. At first the clerk mailed each doctor enough cards to last a month. The first report was returned but the other cards forgotten. When an individual card was mailed each week the response was almost 100 per cent. It required only an occasional follow-up etter or personal visit to get the cooperation of all doctors.

During the first 6 months of 1942, the State Health Department received 10,633 morbidity reports, and of these, 1,804 were from the Cass-Sarpy Area. This represents 64 morbidity reports per 1,000 population for the Cass-Sarpy Area, and 7 morbidity reports per 1,000 population for the rest of the state. Throughout the state there has been a 40 per cent increase in morbidity reporting in the first half of 1942, over the first half of 1941. In the Cass-Sarpy Area there has been a 9,000 per cent inrcease during the same period, due to the excellent cooperation of the local doctors when the method of reporting was simplified. This increased reporting has aided the unit in many activities; for example, 128 cases of septic sore throat were reported. The local boards of health were shown the relationship between the cases of septic sore throat and the sale of raw milk by small producers throughout the counties. Local cooperation was obtained in improving the method of milk handling, with special emphasis on sterilization of utensils, since pasteurization is still impractical in most of this area.

At present the unit is receiving the cooperation necessary to carry on a fairly well rounded public health program. This cooperation comes when the local doctors and the community understand that a local full time health unit functions for the benefit of all concerned. Obtaining this cooperation is the most important achievement of the Cass-Sarpy Health Unit during this past year.

* * *

FRACTURES OF FOREARM OF CHILDREN ARE DIFFERENT FROM THOSE OF ADULTS

"Fractures of the forearm in children are different from those in adults and should be differently treated," Walter P. Blount, M. D.; Arthur A. Schaefer, M. D., and J. Howard Johnson, M. D., Milwaukee, declare in the September 12 issue of The Journal of the American Medical Association.

They explain that such fractures "must not be considered along with fractures of adults under anatomic classifications which take no account of the growth factor. They are different as to pathologic conditions, treatment and prognosis. Intelligent management must recognize this fact. . . ."

The three physicians say that "there is a definite hazard associated with open reduction of fractures of the forearm in children.

"Except at the elbow, open reduction of forearm fractures is difficult to justify in children.

"Greenstick fractures of the middle third should be reduced by completing the fracture in the interest of maintaining alinement. . . ."

Greenstick fractures are common in children and rarely occur in adults.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

TO GO OR NOT TO GO—TO MEETINGS

The season for meetings is on again. As in previous years some physicians will debate with themselves over the pros and cons on attendance. Their decision, it may be predicted, will be based largely on previous habit. Those to whom meetings are a part of their professional life will aim to participate in the deliberations of their group whenever possible. Those on the fence will naturally find arguments, which in their own conscience at least will seek to justify their absences and let the Georges do the thinking and the planning. It is a common experience of every medical society that those who are the least active are as a general rule the most vociferous in their criticisms about group activity. But this is human nature and changes in the psychology of human beings are discouragingly slow.

The tire shortage and the time element are factors which this year may interfere with good attendance. No one can justly argue against the necessity for the strictest conservation of tires. Any unnecessary driving constitutes interference with our war effort. However, one cannot logically adopt the other extreme and consider certain essential trips as rubber wastage. Medical meetings particularly are the means by which a physician may enhance his service to his community, and thus become an essential activity.

With many of the physicians in the Service many practitioners carry a large clientelle scattered in all directions. For them attendance will undoubtedly be a hardship. However, calls made systematically, arranged in order will not often interfere with the meeting. Aside from its educational value the meeting offers a certain degree of relaxation which adds to efficiency and endurance. The functions of the individual medical society are obviously enhanced. Officers and program committees owe it to their members to make the meetings worth the effort of those in attendance. Timely papers and discussions well arranged and properly presented will always find an appreciative audience.

DEXTER D. KING

A Message from Your President

THE COMMITTEE ON SCIENTIFIC ASSEMBLY

Chapter X—Section 5 of the By-Laws of the NSMA states:

"The Committee on Scientific Assembly shall be in full and complete charge of all proceedings of the Annual Assembly except the proceedings of the House of Delegates, the Board of Trustees and the Board of Councilors, the requests of which boards the Committee shall observe in preparing times and places for said boards to meet. The Committee may appoint such sub-committees from the Association at large as may be necessary to its purpose." The section goes on to designate more fully the work of the Committee. It is composed of the Secretary-Treasurer and four members appointed by the President for terms of four years each, one appointment being made each year.

The personnel of the present committee will be found in the roster of committees in the Journal, with Dr. J. E. M. Thomson, Lincoln, Chairman. You will note that in addition to the secretary-treasurer it is made up of a surgeon, an internist, a general practitioner and an obstetrician. This distribution aids in securing appropriate guest speakers for the scientific program. If I may digress somewhat from my theme, I should like to express the special gratitude of this Association to Dr. J. D. McCarthy of Omaha for the recent changes in the quality of the scientific programs. His energetic reforms from the stereotyped papers toward snappy and interesting presentations by local as well as guest speakers have become a tradition in our Association. It has resulted in an enthusiastic attendance at the annual sessions.

Since the advent of the Executive-Secretary most of the details and arrangements for the assembly have been placed in the Headquarters office with very satisfactory results. The Committee will soon begin work on the scientific program as this requires months of correspondence and planning to obtain the guest speakers. Also the Executive Secretary must begin making contacts for the commercial exhibits.

The coming meeting next May is obviously an uncertain quantity at this time. Under the present conditions and those that may prevail in the spring it is going to be hard to procure desirable speakers and there may be some difficulty in getting exhibits. The question of travel restrictions and the increased work of the doctors at home will be a large factor in the attendance. One neighboring state has already cancelled its scientific program for next year.

The Committee, however, is going ahead as usual and will adjust the next Assembly according to the circumstances. Any suggestions from the membership will be welcome and given proper consideration.

D. D. King, M. D.

THE ANNUAL SESSIONS OF THE MID-WEST CLINICAL SOCIETY

The Omaha Mid-West Clinical Society again welcomes the members of the Nebraska State Medical Association to its Annual Sessions. Conscious of the difficulties under which some physicians will attend these sessions, the Society left nothing undone which may in any way add to the value of the time and effort of its visitors. A glance at the program will convince every physician of the excellent educational menu in prospect for the week of October 26.

As in previous years the material offered is both practical and instructive. It is only logical in view of our intense concentration on the war that many of the papers will emphasize the various phases of medicine and surgery of our armed forces. Yet nothing is on the program which will in any way detract from every day problems encountered by the physician in his office or at the patient's bedside. Even during normal times arranging a well balanced program to attract and maintain the attention of hundreds of physicians with such diverse major and minor interests as representated by the average session is a task that only those who have had direct personal experience in its execution can fully appreciate. In times like these the difficulties are obviously multiplied. To the officers and the members of this organization the medical profession of the Middle West owes a debt of gratitude for making available under great sacrifice of time and energy excellent postgraduate work in this area.

THE ROLE OF THE ENDOCRINES IN ALLERGY

The appreciation of allergy as a problem of high complexity sent writers in this field to explore all phases of experimental and clinical medicine. If the wealth of literature on the subject is utilized as an index of progress toward a better understanding of the disease, even the most disheartening sceptics must recognize a fair degree of advancement. It is logical that in the study of factors bearing on allergy, the hormones be given a goodly share of attention. The influence of the various endocrine glands on anaphylaxis in animals has been recognized for many years. The functions or rather dysfunctions of the thyroid, the pituitary, the adrenals and the sex glands all have been shown to exert their effects on the anaphylactic state.

If allergy is an expression of disturbed vasomotor activities, broad and indefinite though the term may sound, the implication of the endocrine economy becomes obvious. From this viewpoint, therefore, the pharmacological action of the various hormones on the sympathetic and parasympathetic nervous systems must command more than academic interest.

Farner*, in a recent article presents some clinical observations on the influences of hormones in some allergic diseases. The cases described are female patients whose allergic state was affected in various forms, permanently or temporarily by such conditions as menstrual period, pregnancy, the climacteric, and the menopause. The symptoms were relieved in some cases by administration of specific hormonal preparations.

While one may justly argue that such measures are more or less empirical in view of our incomplete knowledge of both the disease and proposed therapeutic agent there is the inescapable fact that though some allergic patients demand a full description of their condition and a technical outline of the treatment, most of them would remain satisfied with relief from their asthma, vasomotor rhinitis, urticaria, angioneurotic edema, eczema and/or hay-fever, not to mention a host of other syndromes now explained on an allergic basis.

Obviously not all sufferers from allergy will respond favorably to hormone therapy. Indeed to some the preparations may be harmful. Nevertheless, where their specific need is established and proper dosage supplied, beneficial results may be expected. The alert physician will add endocrine studies to the now recognized factors in the recognition and management of the individual subject to allergy in all its forms.

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*Annals of Internal Medicine, Vol. 17, p. 212, August, 1942.

Omaha Mid-West Clinical Society
Annual Session

October 26, 27, 28, 29, 30, 1942

Paxton Hotel, Omaha, Nebr.

ANNOUNCEMENTS

WAR DEPARTMENT—SERVICES OF SUPPLY

Office of the Surgeon General
Washington

The current military program provides for a definite number of position vacancies in the different grades. The number of such positions must necessarily determine the promotion of officers already on duty and, in addition, the appointment of new officers from civilian life. Such appointments are limited to qualified physicians required to fill the position vacancies for which no equally well qualified medical officers are available. Such positions calling for an increase in grade should be filled by promotion of those already in the service, insofar as possible, and not by new appointments.

If this policy is not followed, it would definitely penalize a large number of well qualified Lieutenants and Captains already on duty by blocking their promotions which have been earned by hard work. In view of these facts, it has been deemed necessary to raise the standards of training and experience for appointment in grades above that of First Lieutenant.

With this in view, the Surgeon General has announced the following policy which will govern action to be taken on all applications after September 15, 1942.

All appointments will be recommended in the grade of First Lieutenant with the following exceptions:

CAPTAIN. 1. Eligible applicants between the ages of 37 and 45 will be considered for appointment in the grade of Captain by reason of their age and general unclassified medical training and experience.

2. Below the age of 37 and above the age of 32, consideration for appointment in the grade of Captain will be given to applicants who meet all of the following requirements:

a. Graduation from an approved medical school.

b. Internship of not less than one year, preferably of the rotating type.

c. Special training consisting of 3 years' residency in a recognized specialty.

d. An additional period of not less than 2 years of study and/or practice limited to the specialty.

3. Eligible applicants who previously held commissions in the grade of Captain in the Medical Corps (Regular Army, National Guard of the United States, or Officers Reserve Corps) may be considered for appointment in that grade provided they have not passed the age of 45 years.

MAJOR. 1. Eligible applicants between the ages of 37 and 55 may be considered for appointment under the following conditions:

a. Graduation from an approved school.

b. Internship of not less than one year, preferably of the rotating type.

c. Special training consisting of 3 years' residency in a recognized specialty.

d. An additional period of not less than 7 years of study and/or practice limited to the specialty.

e. The existence of appropriate position vacancies.

f. Additional training of a special nature of value to the military service, in lieu of the above.

2. Applicants previously commissioned as Majors in the Medical Corps (Regular Army, National Guard of the United States, or Officers Reserve Corps) whose training and experience qualify them for appropriate assignments may be considered for appointment in the grade of major provided they have not passed the age of 55.

LIEUTENANT COLONEL AND COLONEL. In view of the small number of assignment vacancies for individuals of such grade, and the large number of Reserve Officers of these grades who are being called to duty, such appointments will be limited. Wherever possible, promotion of qualified officers on duty will be utilized to fill the position vacancies.

Much misunderstanding has arisen concerning recognition by Specialty Boards and membership in specialty groups. It will be noted that mention is not made of these in the preceding paragraphs. This is due to the variation in requirements of the different Boards and organizations. Membership and recognition are definite factors in determining the professional background of the individual, but are not the deciding factors, as so many physicians have been led to believe.

The action of the Grading Board, established by the Surgeon General in his office, is final in tendering initial appointments. Proper consideration must be given such factors as age, position vacancies, the functions of command, and original assignments. All questionable intial grades are decided by this Board. Due to the lack of time, no reconsideration can be given.

There are in the age group 24-45 more than a sufficient number of eligible, qualified physicians to meet the Medical Department requirements. It is upon this age group that the Congress has imposed a definite obligation of military service through the medium of the Selective Service Act. The physicians in this group are ones needed now for active duty. The requirements are immediate and imperative. Applicants beyond 45 years may be considered for appointment only if they possess special qualifications for assignment to positions appropriate to the grade of Major or above.

THE OMAHA MID-WEST CLINICAL SOCIETY TENTH ANNUAL ASSEMBLY

October 26, 27, 28, 29, 30, 1942
Hotel Paxton — Omaha, Nebraska

PROGRAM

Monday, October 26th

MONDAY MORNING

8:30 a.m.—Registration, Mezzanine Floor, Hotel Paxton.

9:00 a. m.—Octoscopy in the Inflammations. (Motion picture).

9:30 a. m.—Suppurative Petrositis, Meningeal. (Motion picture).

10:00 a. m.—Kenny Technique in Treatment of Poliomyelitis. (Motion picture).

11:15 a. m.—Harry M. Weber, Rochester, Minnesota, "Roentgenologic Manifestations of the More Commonly Encountered Organic Diseases of the Large Intestine."

12:00 M.—Russell L. Haden, Cleveland, Ohio, "Leukemia."

1:00 p. m.—Buffet Luncheon. Round Table Discussion—"The Use of Liver and Iron in the Treatment of Anemia." Leader, Russell L. Haden.

MONDAY AFTERNOON

2:30 p. m.—Arild E. Hansen, Minneapolis, Minnesota, Clinic—"Rheumatism; Chorea."

3:30 p. m.—Harry M. Weber, Clinic—"Tumefactive Lesions of the Alimentary Tract—Diagnostic Features."

4:30 p. m.—Russell L. Haden, Clinic—"Arthritis."

6:15 p. m.—Dinner. Round Table Discussion—"Immunization Against Contagious Diseases." Leader, Arild E. Hansen.

MONDAY EVENING

8:15 p. m.—Harry M. Weber, "The Conduct and Diagnostic Yield of the Roentgenologic Examination of the Small Intestine."

8:45 p. m.—Russell L. Haden, "Undulant Fever."

9:15 p. m.—Arild E. Hansen, "Problems Confronting the Physician in the Evaluation of the Nutritional Status of Our Children."

Tuesday, October 27th

TUESDAY MORNING

8:20 a. m.—Otitis Media in Pediatrics. (Motion picture).

9:00 a. m.—Frank H. Lahey, Boston, Massachusetts, "Lesions of the Stomach, Duodenum and Jejunum and Their Surgical Management."

9:40 a. m.—Elmer L. Sevringhaus, Madison, Wisconsin, "Diagnostic and Therapeutic Problems of the Menopause."

10:20 a. m.—Arild E. Hansen, "Diagnosis and Prevention of Rheumatic Recrudescences."

11:15 a. m. to 1:00 p. m.—Lecture Course. Lectures to be held in Lecture Rooms, A. B. C. D.

11:15 a. m.—J. A. Henske, "Clinical and Laboratory Studies and Observations of Vitamin C."
W. A. Cassidy, "The Importance and Method of Doing a Complete Adenoidectomy."
M. C. Howard, "Management of Gastric Hemorrhage."
Alfred Brown, "The Rationale of the Treatment of Wounds."

11:40 a. m.—H. M. Jahr, "The Child, the Parents and the War."
H. E. Kully, "The Common Cold."
E. L. MacQuiddy, "Oral Therapy in Hay Fever—A Review of Results in 1941 and 1942."
L. D. McGuire, "Carcinoma of the Colon."

12:05 p. m.—L. E. Hanisch, "Symptomatology of Perforated Stomach Lesions."
B. C. Russum, "More Accurate Prognosis in Brain Tumors."
L. O. Hoffman, "Treatment of Incomplete Abortion."
Warren Thompson, "Hypothyroidism."

12:30 p. m.—H. A. Wigton, "Intracranial Hemorrhage."
W. H. Schmitz, "Carcinoma of the Prostate."
Ralph Luikart, ' Sterility with Especial Emphasis on Male Factors."
E. M. Walsh, "Management of Difficult Diabetics."

1:00 p. m.—Buffet Luncheon. Round Table Discussion—Open Forum. Leader, Frank H. Lahey.

TUESDAY AFTERNOON

2:30 p. m.—William J. Dieckmann, Chicago, Illinois, Obstetric Clinic.

3:30 p. m.—Frank H. Lahey, Clinic—Thyroid Disease.

4:30 p. m.—Elmer L. Sevringhaus, Clinic—Obesity.

6:15 p. m.—Dinner. Round Table Discussion—"Hypothyroidism." Leader, Elmer L. Sevringhaus.

TUESDAY EVENING

8:15 p. m.—Elmer L. Sevringhaus, "Use of Pituitary and Ovarian Therapy, Disturbances of Menstrual Rhythm and Fertility."

8:45 p. m.—William J. Dieckmann, "The Treatment of Heart Disease and Diabetes Mellitus in Pregnancy."

9:15 p. m.—Frank H. Lahey, "The Doctor and the Armed Forces."

Wednesday, October 28th

WEDNESDAY MORNING

8:20 a. m.—A Clinic on Acute Mastoiditis. (Motion picture).

9:00 a. m.—Samuel Iglauer, Cincinnati, Ohio, "Deep Infections of the Neck and Posterior Mediastinum."

9:40 a. m.—Philip D. Wilson, New York City, "The Management of Compound Fractures Resulting from Enemy Action."

10:20 a. m.—William J. Dieckmann, "The Diagnosis and Treatment of Toxemia of Pregnancy."

11:15 a. m. to 1:00 p. m.—Lecture Course. Lectures to be held in Lecture Rooms A, B, C, D.

11:15 a. m.—D. A. Dowell, "X-Ray Treatment of Peritonitis."
J. H. Judd, "Care of Ocular Injuries."
W. L. Sucha, "Traumatic Shock."
H. E. Anderson, "Local Application of Vitamins A and D to Nipples of Post Partum Breasts."

11:40 a. m.—H. B. Hunt, "Modified Roentgenologic Examinations Indicated in Major Traumatic Cases."
W. N. Hahn, "The Fundus Oculi in Arteriosclerosis."
H. F. Johnson, "The Use of the Sulfonamides in Acute and Chronic Osteomyelitis."
M. E. Grier, "The Treatment of Pelvic Inflammatory Disease."

12:05 p. m.—C. A. Owens, "Urologic Emergencies."
P. N. Morrow, "The Present Status of Contagious Disease Immunization."
E. C. Henry, "Abdominal Problems."
Edward Thompson, "Parenteral Use of Sulfona-

mides: Comparative Blood Level and Excretion Studies."

12:30 p. m.—C. H. Waters, "Postoperative Management."

J. M. Thomas, "Tetanus Toxoid Immunization."

L. T. Hall, "The Present Status of Liver Tests."

Ernest Kelley, "Electric Shock in the Treatment of Psychoses."

1:00 p. m.—Buffet Luncheon. Round Table Discussion—"The Diagnosis and Treatment of Habitual Abortion. Leader, William J. Dieckmann.

WEDNESDAY AFTERNOON

2:30 p. m.—Temple Fay, Philadelphia, Pennsylvania, Clinic—"Head Trauma; Brain and Cord Lesions; Epilepsy."

3:30 p. m.—Samuel Iglauer, Clinic—"Bronchoscopy and Esophagoscopy."

4:30 p. m.—Philip D. Wilson, Clinic—"Fractures of the Lower Extremity."

6:15 p. m.—Dinner. Round Table Discussion—"Gas Gangrene and Infected Compound Fractures." Leader, Philip D. Wilson.

WEDNESDAY EVENING

8:15 p. m.—Philip D. Wilson, "The Problem of 'Sciatica'."

8:45 p. m.—Temple Fay, "Cerebrocirculatory Physiology."

9:15 p. m.—Samuel Iglauer, "Bronchoscopy and Esophagoscopy as Diagnostic and Therapeutic Aids."

Thursday, October 29th

THURSDAY MORNING

8:20 a. m.—Otoscopy in the Inflammations. (Motion picture).

9:00 a. m.—Francis E. Senear, Chicago, Illinois, "Fungous Infections of the Skin."

9:40 a. m.—Frederic W. Bancroft, New York City, "Postoperative Thrombosis and Embolism."

10:20 a. m.—Temple Fay, "Convulsive Disorders."

11:15 a. m. to 1:00 p. m.—Lecture Course. Lectures to be held in Lecture Rooms A, B, C, D.

11:15 a. m.—E. T. Manning, "Health Service for Industry."

F. L. Simonds, "Roentgenologic Studies of the Non-Tuberculous Chest."

J. E. Courtney, "Traumatic Appendicitis."

Floyd Clarke, "The Kenny Method in Acute Infantile Paralysis."

11:40 a. m.—M. Margolin, "New Digitalis Preparation in the Treatment of Heart Disease—Lanatoside C."

W. H. Morrison, "Glaucoma in General Practice."

C. W. Mason, "The Dysenteries—a War Time Menace."

H. N. Boyne, "Early Care of Facial Wounds."

12:05 p. m.—Richard Young, "The Psychiatric Aspects of War Time Adjustment."

J. A. Borghoff, "Skin Diseases of Infancy."

F. W. Niehaus, "Chest Pains Simulating an Anginal Syndrome."

R. J. Stearns, "Adequate Examination of the Uterine Cervix."

12:30 p. m.—A. S. Rubnitz, "Myocardial Changes Following Coronary Thrombosis."

C. C. Tomlinson, "Etiology and Treatment of Some Types of Pruritis."

W. H. Taylor, "The Cervix in Labor."

1:00 p. m.—Buffet Luncheon. Round Table Discussion—"Problems in the Management of Acute Brain Trauma." Leader, Temple Fay.

THURSDAY AFTERNOON

2:30 p. m.—Irvine H. Page, Indianapolis, Indiana, "Background for Modern Concepts of the Experimental Treatment of Hypertension."

3:30 p. m.—Francis E. Senear, Dermatologic Clinic.

4:30 p. m.—Frederic W. Bancroft, Clinic—"Burns and Their Management."

6:15 p. m.—Dinner. Round Table Discussion—"Surgery in the Aged." Leader, Frederic W. Bancroft.

THURSDAY EVENING

(Omaha Douglas County Medical Society Night)

8:15 p. m.—Herman H. Riecker, Ann Arbor, Michigan, "The Clinical Anticipation of Disease."

9:00 p. m.—Frederic W. Bancroft, "The Problems Associated with Incisional Hernia."

9:30 p. m.—Francis E. Senear, "New Drugs Used in Dermatology."

Friday, October 30th

FRIDAY MORNING

8:20 a. m.—Suppurative Petrositis, Meningeal. (Motion picture).

Panel Discussion, "The Newer Concepts Regarding Hypertension and Its Management."

9:00 a. m.—A. L. Bennett, Omaha, Nebraska, "Normal Blood Pressure and Its Physiologic Variations."

9:45 a. m.—Charles P. Baker, Omaha, Nebraska, "Pathologic Anatomy and Mechanism by Which Blood Pressure Is Elevated."

10:30 a. m.—Adolph Sachs, Omaha, Nebraska, "Renal Hypertension."

11:30 a. m.—Herman H. Riecker, Ann Arbor, Michigan, "Essential Hypertension."

12:15 p. m.—Irvine H. Page, Indianapolis, Indiana, "Medical and Surgical Management of Hypertension."

1:00 p. m.—Adjourn.

PEPTIC ULCER FILM AVAILABLE

There is now available for free showings before groups of physicians the first complete movie film on peptic ulcer, in color and with sound track.

The film is entitled "Peptic Ulcer" and was produced under the direction of the Department of Gastroenterology of the Lahey Clinic of Boston. The American College of Surgeons has awarded its seal of approval to the film.

Running time of the film is 45 minutes, 1,600 feet of 16 mm. film, and covers a presentation of the following problems of peptic ulcer: Pathogenesis, diagnosis, treatment, pathology, complications, including obstruction, hemorrhage, and perforation, gastric ulcer, surgery and jejunal ulcer.

Arrangements for a showing of the film may be made by writing to the Professional Service Department of John Wyeth and Brother, Inc., Philadelphia, who will provide projection equipment, screen, film, and operator for medical groups, without charge.

AMERICAN BOARD OF OPHTHALMOLOGY IMPORTANT

Because of the War Emergency, the Board announces the following additional examinations:

New York City—December 13th to 16th.

Los Angeles—January 15th and 16th.

At the last meeting it was decided to cancel the 1943 written examination, to include in the oral examination all of the subjects previously covered by the written examination, and to temporarily dispense with the requirement of case reports. The oral examination will probably require two or three days and will cover the following subjects:

External Diseases—Slit Lamp; Ophthalmoscopy; Histology—Pathology—Bacteriology; Ocular Motility; Refraction—Retinoscopy; Practical Surgery; Anatomy and Embryology; Perimetry; Therapeutics and Operations; Optics and Visual Physiology; Relation of the Eye to General Diseases.

Formal application on the proper blanks for the December and January examinations must be filed with the Secretary not later than November 1st.

Please write at once for blanks to: American Board of Ophthalmology, 5830 Waterman Avenue, St. Louis, Mo.

MEDICAL DIVISION MEMORANDUM NO. 16

To: Regional Medical Officers.

From: Chief Medical Officer.

Subject: Conservation of dealers' stocks of medical and surgical supplies.

The following statement should be forwarded to State Chiefs of Emergency Medical Service with a request that they transmit it to local chiefs of Emergency Medical Service and to hospitals and State and local Medical Societies:

The medical profession and the hospitals of the nation will shortly be obliged to depend upon dealers' stocks of medical and hospital supplies if they are to maintain their present level of efficiency. The continued shortage of raw materials makes it increasingly evident that even the armed forces may have difficulty in securing their requirements. Stocks on the shelves of the dealers of this nation constitute the only reserve of medical and hospital equipment which may be available in the near future to meet civilian needs. The hoarding and dead storage of equipment and supplies for a possible emergency should, therefore, be discouraged. Any unexpected emergency could be met by our present civilian medical and hospital resources; continued disaster could only be met by the utilization of military stores which would be made available if there were urgent need.

Any surplus or obsolete equipment now in the possession of physicians and hospitals ought not to be dispersed at this time, because of the difficulty of replacement and the possibility that it may be needed for the establishment of emergency base hospitals.

EXAMINATIONS—AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next written examination and review of case histories (Part I) for all candidates will be held in various cities of the United States and Canada on Saturday, February 13, 1943, at 2:00 p. m. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held later in the year. All applications must be in the office of the Secretary by November 16, 1942.

Effective this year there will be only one general classification of candidates, all now being required to have been out of medical school not less than eight years, and in that time to have completed an approved one year general rotating internship and at least three years of approved special formal training, or its equivalent, in the seven years following the intern year. The Board's requirements for internships and special training are similar to those of the American Medical Association since the Board and the A. M. A. are at present cooperating in a survey of acceptable institutions. All candidates must be full citizens of the United States or Canada before being eligible for admission to examinations.

All candidates will be required to take the Part I examination, which consists of a written examination and the submission of twenty-five (25) case history abstracts, and the Part II examination (oral-clinical and pathology examination). The Part I examination will be arranged so that the candidate may take it at or near his place of residence, while the Part II examination will be held late in May, 1943, in that city nearest to the largest group of candidates. Time and place of this latter will be announced later.

Fur further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

NEWS *and* VIEWS

Lancaster County has accepted a six months' contract with four Lincoln hospitals on a flat rate for county cases of $5 a day. This fee does not cover orthopedic appliances or blood plasma. The hospitals named are Green Gables Sanatorium, Bryan Memorial St. Elizabeth's, and Lincoln General.

According to press reports, between now and the end of the year twenty thousand physicians are to be added to the present force of fifteen thousand, and within a year sixty-five thousand. Approximately one-third of all those in the country will be in the Army and the Navy will take at least ten thousand more.

Nine deaths from polio have been reported in the state; seven of them in the North Platte area. The statement issued by Dr. W. S. Petty, acting Federal Health Director, said the epidemic has reached its peak and is quieting down.

American Medical Colleges, according to the Council on Medical Education of the American Medical Association, will graduate a record breaking total of twenty-one thousand physicians in the next three years on a War Time Speed-Up Program. This is five thousand more than would have graduated ordinarily. The College provides more than two graduate physicians for every death of a practicing doctor.

TUBERCULOSIS ABSTRACTS

To meet the menace of a rise in the tuberculosis death rate due to war conditions, a renewed emphasis must be laid upon special problems in the fight to control and ultimately eradicate the disease. It is timely and pertinent to call attention to certain of these problems where assistance of the general medical profession is indispensable.

Industrial problems and racial problems stand out clearly against the background of our national health which is threatened by the exigencies of war. The following cogent articles illustrative of the situation existing in various parts of this country, one which can only be met by concerted action on the part of the medical profession. The Weld County, Colorado, problem may differ in extent but not in kind from countless similar ones which confront physicians the country over.

PULMONARY TUBERCULOSIS AMONG SPANISH-SPEAKING PEOPLE

It is a well established fact that the incidence of pulmonary tuberculosis varies markedly in different races. Roughly, there appears to be an increase in incidence as the pigmentation of the skin characteristic of the race increases, and also increasing with the magnitude of climate change occurring when the darker skinned races migrate to colder regions. Thus, a native of the tropics coming to Colorado to live is more liable to contract tuberculosis than is a native Coloradoan. Whereas the present death rate for tuberculosis in the United States Registration area is approximately 36 (in 1940) per 100,000 population in whites, the rate for Negroes is almost three and one-half times that number.

The incidence of tuberculosis in the Mexican falls between the rates for Negroes and whites. However, reported figures have shown fairly wide variations. These variations are to be expected, inasmuch as the Mexican who was born and raised in the Rio Grande valley and who later moves across the river into the Texas side of the valley has made no change in climate at all, but the Mexican who migrates from Monterey to Colorado has made a very decided change. It is therefore expected that the incidence of tuberculosis among Mexicans coming to Colorado will be greater than that among those stopping in southern Texas, New Mexico and Arizona.

The Weld County study, under the joint sponsorship of the Weld County Tuberculosis and Health Association and the Weld County Health Department and Public Health Laboratories, shows the tuberculosis problem which exists among the several thousand Mexicans residing in this Colorado county. Nearly all of them are occupied in farm work, mainly the planting and harvesting of sugar beets. Over half of them live in "Spanish Colonies." Living conditions are quite uniformly sub-standard and crowded. This undoubtedly contributes in no small measure to the picture presented by this study.

During the thirty-month period September 1, 1939, to March 1, 1942, a case-finding program was carefully conducted among the Mexican population of Weld County. A total of 1,745 persons were tuberculin tested and all positive reactions followed up with an x-ray. Of the reported such studies, very few have contained complete follow-ups of all positive reactors. The Weld County study is now complete except for the progress following diagnosis and treatment of all active cases found.

The tests were made, for the most part, in "Spanish Colonies" after showing a series of educational films produced by the National Tuberculosis Association. The interest response was very gratifying and all age groups attended, as is shown in the figures of Table I. The ages ranged from less than two years to over 70.

The remainder of the persons included in the study were segregated from the testing programs carried on in the schools of the county, and a few persons who were tested for various reasons. On the whole, the group studied should represent a very nearly accurate cross section of the Mexican population of the county.

The results of the study are diagrammatically shown in Table I. Of the 1,745 tuberculin tested, 745, or 42.7%, had positive reactions. These 745, along with forty other persons from families in which active tuberculosis was found, were given chest x-rays. These forty people had not had previous tests.

TABLE I

Total Tuberculin Tests		1,745
Under 16 years	986	
Over 16 years	759	
Negative Reactions		1,000
Under 16 years	702	
Over 16 years	298	
Positive Reactions		745
Under 16 years	284	
Over 16 years	461	
All 745 reactors given chest x-rays.		
Known Contacts		40
40 members of families with active tuberculosis also x-rayed; total of chest x-rays.	785	
Chest Films with Negative Findings		481
Referred to Chest Clinic for further study	304	
Active Tuberculosis Cases Discovered		61
Sanatorium recommended	47 cases	
Pneumothorax clinic and home care	3 cases	
Hospitalized by Las Animas County	1 case	
Died in Island Grove Hospital pending sanatorium care	10 cases	
Admitted to sanatorium	42 cases	
Refused to sanatorium treatment	2 cases	
Left the county	2 cases	

In 481 of the chest x-rays, there was no evidence of tuberculosis activity and they were dismissed from further study.

In 304 cases radiographic evidence ranged from merely suggestive to definite evidence of pathology. These were referred to the Chest Clinic of the County Health Department for further study, including physical examination, sputum examinations and cultures. Sixty-one were found to have active pulmonary tuberculosis. The disease status of the active cases is shown in Table II.

TABLE II

(Disease Status of the 61 Active Cases)

Far Advanced		51
Recommended to sanatorium care	41	
Died in Island Grove Hospital	10	
Moderately Advanced		4
Recommended to sanatorium care	1	
Pneumothorax and home care	3	
Minimal		4
Followed in Chest Clinic.		
Refused to cooperate so that accurate evaluation of their diseases status is impossible, probably moderately advanced		2

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The **Elkhorn Valley Medical Society** met August 27, 1942 in Norfolk Country Club, Norfolk, Nebraska.

The following program was presented: "Birth Injuries," John Murphy, M. D., Omaha, Nebr. "Why Gastric Ulcer is a Surgical Problem;" "The Care of Fresh Contaminated Wounds," J. Dewey Bisgard, M. D., Omaha, Nebr. "Sex Hormones and Their Clinical Uses," D. S. Rimes, M. D., Indianapolis, Ind. "Treatment of Subacute Bacterial Endocarditis," George W. Covey, M. D., Lincoln, Nebr.

The regular monthly meeting of the **Adams County Medical Society** was held at the Hastings State Hospital, September 2, 1942, at 6:30 p. m., for dinner and the program.

The guest speaker was Mr. Duff, Nebraska State Sanitation Inspector, who is a graduate of Harvard University. His subject was "Sanitation." He placed particular emphasis on the handling of foods, milk and disposal of sewage in the towns of Clay Center, Glenville and Hastings, owing to the large influx of population recently, due to the opening of the new Ordinance Plant near these towns.

Dr. Juul C. Nielsen, Superintendent of the Hastings State Hospital, received his commission as Major in the Army and is to report for duty at Springfield, Missouri, September 15.

Dr. H. Stretton, newly appointed Assistant Superintendent July 1, 1942, died this a. m., following a sudden heart attack.

OUR MEMBERS IN THE ARMED FORCES

The Journal is desirous of supplying the latest information about the members of the Nebraska State Medical Association in the Armed Forces. Data will be brought up to date as information is received. Readers are urged to cooperate in this effort. Drop a postcard to the Editor, 220 Medical Arts Building, Omaha.

Lt. Commander M. C. Green reported for naval service, San Diego, California, September 7.

Capt. John W. Gatewood, who left Omaha August 30, is stationed at Camp Beale, Marysville, California.

Major R. Russell Best reported for duty in September at Fitzsimons Hospital, Denver, Colorado.

Lt. Samuel Z. Faier has been transferred from Ft. Sam Houston, Texas, to Station Hospital, Camp Hood, Texas.

Lt. J. F. Gross is stationed at office of Camp Surgeon, Camp Stoneman, Pittsburg, California.

Major Joseph A. Weinberg is stationed at 18th Field Hospital, Ft. Bowie, Texas.

Lt. Com. R. H. Rasgorshek reported for duty September 24, Naval Hospital, San Diego, California.

Major B. C. Burns left Omaha August 30 for Camp Carson, Colorado Springs, Colorado.

Lt. Com. W. D. Wright reported September 28 to U. S. Naval Hospital, Great Lakes, Illinois.

Lt. Jack Hayes was transferred from Fort Douglas, Utah, to Station Hospital, Camp Haan, Calif.

Dr. Donald J. O'Brien, Omaha, has just received his appointment as Lt. Commander in the U. S. Navy and will report for duty about October 1.

Capt. Raymond J. Wyrens, left Omaha in August for Fitzsimons Hospital, Denver, Colorado.

Lt. J. Whitney Kelley is at Spence Field, Moultrie, Georgia.

Capt. Donald R. Owen is at Camp Rucker, 34th Station Hospital, Ozark, Ala.

Dr. S. A. McCool of Pawnee City, is 1st Lieutenant in the Medical Corps of the Army stationed in Omaha.

Major George Salter is commander of the 32nd Medical Battalion 96th Infantry Division in Camp Adair, Oregon.

Major Joseph G. Cruml is Chief of Surgical Service in Jefferson Barracks.

Captain Roy S. Cram is with the 94th Engineers Regiment serving overseas.

Captain John N. Round is at Camp Ord, California.

Dr. Perry R. Allerson is Flight Surgeon at the Civil Aeronatics Authority stationed in Chicago.

Dr. W. J. Kenner of Nebraska City is being commissioned in the Army Medical Corps and was to report for duty the latter part of September.

Major A. L. Snyder formerly of Brady stationed in Alaska was recently on furlough in Nebraska.

Dr. Herbert W. Worthman of Louisville was commissioned Captain in the United States Army.

Dr. Francis J. Murphy a Nebraska graduate of 1929 is a Major in the Army Medical Corps. He was inducted in September.

Dr. Max Wainwright of Omaha, 1st Lieutenant is stationed at Camp Barkeley, Texas.

Dr. Frank Ryder of Grand Island was recently named Lieutenant Colonel stationed at Fort Leonard Wood, Missouri.

Dr. W. D. Ketter of Falls City was called to active duty as 1st Lieutenant in September at Camp Barkeley, Texas.

Captain Isaiah Lukens of Tekamah is at Fort Riley, Kansas.

Dr. R. A. Koler a Nebraskan formerly in practice in New York City is stationed in Fort Omaha.

Dr. L. L. Thompson of West Point was commissioned 1st Lieutenant in the Medical Corps of the Army, reported for duty the latter part of September.

Dr. Ben Ewing of Nebraska City, 1st Lieutenant, stationed at Randolph Field, Texas.

Dr. A. J. Merrick of Fremont was inducted as 1st Lieutenant in the Army September 15.

Dr. R. Brown of Beatrice is awaiting orders for active duty in the Army some time in September.

One of the heroes of the sea is Lieutenant Leonard H. Barber a Nebraskan stationed on the Lexington before its sinking at the Coral Sea Battle.

Major Horace W. Schreck is with the 46th Quartermaster Regiment at Fort Ord, Calif.

Major Z. N. Korth is stationed at Walter Reed General Hospital, Washington, D. C., in charge of Dermatology. Major Korth spent several days in Omaha the latter part of September.

DEATHS

Stretton, Harry H., Hastings, born in England in 1867, came to America in early childhood; graduated from Lincoln Medical College in 1895 and practiced in Hastings. He was on the Hastings Hospital staff at Ingleside from 1929 to 1936, then retired from active practice. He rejoined the Hastings State Hospital in June of this year to relieve Dr. Juul C. Nielsen who accepted a commission in the Army Medical Corps. Death came suddenly from a heart attack on September 7, 1942. Surviving are his wife, a son and a daughter.

Fast, William K., Atchinson, Kan., formerly of Dawson, born in Indiana in 1889, graduated from Creighton University School of Medicine in 1914. Following an internship with Bishop Clarkson Hospital in Omaha, he moved to Dawson in 1915; the following year he moved to Kansas. Death came on August 31, 1941. Surviving are the widow and two sons, one of whom is Lt. Spencer Fast serving in the Army Medical Corps.

Wagner, Carl Phillip, Portland, Connecticut, born in Culbertson, Nebr., in 1898; graduated from University of Nebraska College of Medicine in 1928, and following his internship in the East, he specialized in pediatrics. He died August 9, 1942. Survivors are his parents and four brothers.

BIRTHS

To Dr. and Mrs. R. Brown of Beatrice, a son on August 17, 1942.

To Dr. and Mrs. F. C. Hill of Omaha, a daughter, Sept. 23, 1942.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. G. E. Pennington has reopened his office in Broken Bow.

Dr. Torrence Moyer of Lincoln vacationed in Minnesota in August.

Dr. Charles Moon of Omaha spent the month of August in Wyoming.

Dr. Donald Burdick of David City vacationed in the Black Hills in August.

Dr. V. A. Lanphier, formerly of Omaha, is now practicing at Elkhorn, Nebraska.

Dr. Wayne Brewster of Holdrege recently returned from post graduate study in Boston.

Dr. R. L. Hook of Rushville, who had suffered a broken leg in an injury, is back in the office.

The sympathy of The Journal is extended to Dr. H. R. Brown of Beatrice on the death of his father.

Dr. J. R. Leibee of Beatrice was appointed County Physician at the August meeting of the Board of Supervisors.

Dr. Esther I. McEachen, Omaha, has been appointed member of the Women's National Committee of Medical and Surgical Relief of America, a newly formed committee, with headquarters at 420 Lexington Avenue, New York City.

An old timer who has lived through many wars, including the Mexican and Civil Wars, is Dr. Thomas C. Sexton of Blair, ninety-nine years of age. Dr. Sexton came to Fremont in July, 1868, and as he puts it, "starved for a while," then moved to Fontenelle where he continued on a menu of hard work, long hours, long walks and short fees for twenty years. Nebraskans in those days, the doctor muses philosophically were vigorous, robust people who had not much use for doctors.

BOOKS RECEIVED

Advances in Pediatrics, Editor, Adolph G. DeSanctis, M. D., New York Post Graduate Medical School and Hospital, Columbia University, New York, N. Y. Associate Editors, L. Emmett Holt, Johns Hopkins Hospital, Baltimore, Md.; the late A. Graeme Mitchell, M. D., The Children's Hospital, Cincinnati, Ohio; Robert A. Strong, M. D., Tulane University, New Orleans, La.; Frederick F. Tisdall, M. D., Hospital for Sick Children, Toronto, Ont., Canada. 306 pages, including subject and author index, illustrated. Interscience Publishers, Inc., 215 Fourth Avenue, New York, N. Y. Price $4.50.

Pharmacopaeia of the United States, Twelfth Revision (U. S. P. XII), by the authority of the United States Pharmacopaeial Convention. Prepared by the Committee of Revision and published by the Board of Trustees. Official from November 1, 1942. Mack Printing Company, Easton, Pa.

Synopsis of Pathology, by W. A. D. Anderson, M. D., Assistant Professor of Pathology, St. Louis University School of Medicine; Pathologist, St. Mary's Group of Hospitals. 661 pages, including index, with 294 text illustrations and 17 color plates. The C. V. Mosby Company, St. Louis. Price $6.00.

Maintaining Our Medical Standards

American medicine is doing everything in its power to meet the enormous demand of war for physicians. It is assisting the military forces in swiftly obtaining the doctors and dentists they need. As a war measure, the medical schools of the country have increased the size of their entering classes by about 10 per cent, and have adopted an accelerated program which calls for the graduation of a class every nine months. In addition, the bulk of the medical schools are now making available for military service all members of their faculties except those who are absolutely essential. The purpose of this medical program is twofold. First, the Army and Navy must be provided with sufficient men of medicine. Second, and equally important, there must be no deterioration in the standards of medical instruction. It is obvious to anyone that a badly-schooled or under-schooled doctor would be a definite danger to the community in which he might practice. As a result, medical groups have insisted that the medical schools maintain their standards—and the government authorities have wisely co-operated. A "speed-up" in medical education can only go so far. There is a definite limit beyond which the time necessary for education cannot be reduced. The future welfare of this country demands the highest possible standards of medical care and service—and American medicine will see that those standards are maintained.—From Fairmont Chronicle.

'One Day Syphilis Cure' Article Is Assailed by A. M. A. Journal

A recent article in Reader's Digest by Paul de Kruif on a so-called "one day cure for syphilis" is assailed by The Journal of the American Medical Association for September 5 as "another instance in which Mr. De Kruif has expanded preliminary medical investigations into announcements to the public that go far beyond anything that the available evidence could warrant." The Journal editorial says:

"In the Reader's Digest for September appears an article by Paul de Kruif entitled 'Found: A One Day Cure for Syphilis,' heralded by the editors of that periodical as 'the medical sensation of the year.' In this article Mr. de Kruif states that 'now there actually is promise of a one day cure.' He asserts without, of course, any basis in fact that 'the standard eighteen month course of treatment is too painful, too dangerous, too prolonged for the mass cure of early syphilis.' After describing certain experiments conducted by Drs. Walter M. Simpson, H. Worley Kendell and Donald L. Rose in the Miami Valley Hospital, he concludes:

"With a one day cure available, with plenty of doctors and nurses trained in fever therapy, and using equipment which costs little war material, we ought really to begin to wipe out the horror of syphilis. There are a million active cases in the United States. With this powerful new treatment, all persons found infected with active syphilis could be taken out of circulation and their danger to the community quickly abolished. The immediate expansion of this chemothermic treatment should bring hope to those countless hundreds of thousands who are inadequately treated or who are not treated at all. In the meantime, all those now under standard treatment should continue it until the new chemothermic treatment becomes generally available; this for their own as well as for the public safety.

"As nearly as can be determined, all this effusion is based on a few paragraphs from an article on fever therapy by Drs. Walter M. Simpson, H. Worley Kendell and Donald Rose, published in the British Journal of Venereal diseases for January-April 1941, in which the authors state:

"The present plan of treatment is as follows: A ten hour session of fever at 106 F. (41.1 C.) has been adopted tentatively as the initial unit of fever, since these limits have proved to be safe and practical in the management of patients with refractory gonococcic infection. Prior to the fever session a single infection of 4 grains of insoluble bismuth is administered intramuscularly. During the first seven hours of the height of fever, 240 mg. of mapharsen are administered intravenously by the slow intravenous drip method. No additional anti-syphilitic therapy is given.

"To this they append the following highly conservative opinion:

"While no conclusions are permissible since the period of post-therapy observation is as yet less than two years, the prompt resolution of clinical symptoms and the favorable serologic responses would indicate that further diligent injuiry is demanded. The results of this purely experimental undertaking will be made the subject of a later report.

"In their ultimate 'conclusions' they say:

"At the present time such treatment should be considered strictly experimental.

"The results achieved thus far should stimulate other investigators to engage in long term, controlled experiments with a view to the introduction of a more rapid, more certain, less dangerous and less costly method of treatment.

"In a review of syphilis to appear in the Archives of Internal Medicine, Drs. Frank W. Reynolds, Charles F. Mohr and Joseph Earle Moore of Baltimore say:

"With his usual uncritical judgement, hyperenthusiasm and willingness prematurely to capitalize journalistically on sober scientific experimentation, de Kruif has unhappily drawn nationwide attention to this 'one day cure' for syphilis. This tendency of medical journals as to raise false hopes in lay minds can only be deplored. With all due respect to democratic freedom of speech, it is too bad that no censorship exists to compel conservative accuracy from medical sensationalists.

"This is another instance in which Mr. de Kruif has expanded preliminary medical investigations into announcements to the public that go far beyond anything that the available evidence could warrant. The Journal is being deluged with letter from physicians indicating that the article already is doing great harm in creating dissatisfaction among persons with syphilis as to time that may be required to bring about cure. Dr. Walter M. Simpson is an officer in the Bureau of Medicine and Surgery of the United States Navy and has been for some months away from contact with the continental United States. It is unfortunate that in his absence the statements of Mr. Paul de Kruif should have placed him and his research in such an unenviable position before the medical profession."

THE NEBRASKA STATE MEDICAL JOURNAL

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Recent Developments in the Treatment of Severe Third Degree Burns

**WILLIAM A. WOLFF, Ph.D., JONATHAN E. RHOADS, M.D.,
and WALTER ESTELLE LEE, M.D.**
Philadelphia, Pa.

Our interest in the problem of massive third degree burns began more than 25 years ago when confronted, in France, with the results of German military efficiency in the form of unbelievably massive burns resulting from the use of the so-called "Flammenwerfer." Though the use of fire in warfare was not unheard of before that time, it certainly has not been abandoned since.

Wakely, in a recent article in "Surgery," claims that never before have burns and scalds been so massive and such a serious problem as in the present European war. Not only are they severe, but the total number of them is far greater than at any period in the past because of the inclusion, as victims among the casualties, of unarmed civilians and defenseless women and children. The number and the severity of burns makes this type of wound one of the major problems of modern warfare.

He claims this increased incidence is not only confined to the peoples on the defense, but has also occurred in the armies of the aggressor, because of the use of oil fuel for transport, on land, on sea and in the air.

Further, in addition to being the primary cause of disability, burns have occurred almost constantly as complications of, and associated with wounds of all kinds.

Many new viewpoints have developed during the last 30 years, both as to the pathology and the treatment of this type of wound, and as a result I doubt very much, at the present time, if any group of nurses in training would give the same fatalistic answer I received at an examination given when I was a resident surgeon. They replied unanimously that there were two degrees of burns—the first degree and death.

At that time our mortality rate in third degree burns was over 80%, and 60% of these patients died during the first week. The fact that in our last 40 consecutive cases of massive third degree burns no deaths have occurred during the first seven days following the receipt of the injury, and that at the present time our total mortality rate has been a little more than 13.1% in this group of cases, would seem to justify our continued interest in what should now be considered a major surgical problem.

We believe that this improvement in the mortality rate is the direct result of a better understanding of the factors involved, and an ability to develop and apply new types of treatment. These factors may be divided into two groups.

1. The Local Reactions in the Wound.

2. General, which includes the chemical and biological reactions in the tissues, the viscera, and the blood.

I will outline briefly the recent developments in the local treatment, leaving most of the allotted time for Dr. Woff to present the generally accepted concepts of tissue, visceral and blood damage found in burns and scalds.

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*Presented before the Omaha-Midwest Clinical Society, October 29, 1941.

The results which have been obtained by the application of our accumulating knowledge of the underlying factors of this problem have been made possible by a team consisting of a chemist, surgeons and nurses, and we hope you will agree, at the close of our presentation, that it is no longer possible to be content with our former passive attitude of fatalism which resulted in what we now know was an unjustifiably high mortality.

Local Treatment. The objects of the local treatment of massive burns are to lower mortality, reduce scar formation, and minimize permanent disability.

There are three principle causes of mortality in this type of wound.

1. Primary shock.
2. Toxemia.
3. Infection.

The tannic acid treatment of Davidson was undoubtedly one of the greatest single contributions, in our generation, to the treatment of massive burns of the soft tissues. This, you know, consists in the coagulation of the devitalized tissues by the application of a five or ten per cent solution of tannic acid. Davidson claimed the resulting eschar accomplished three things:

1. That it stopped the surface loss of serum.

2. That it prevented, or minimized, the decomposition of dead tissue, and the absorption of the toxic products that ensued; also that it prevented bacterial growth and absorption of the toxins developing from this source.

3. That this occlusive eschar, or shell, prevented secondary infection with contaminating bacteria.

All of this, to some extent, is undoubtedly true, but with continued experience we have found that we are discounting more and more these supposed results. Thus, though it has been shown that tanning does stop the weeping or oozing from the raw burned surface, it is no longer believed that it prevents the massive loss of plasma from the circulating blood stream which occurs as the result of the passage or shifting of the plasma into the perivascular tissues.

The toxemia is evidenced by vomiting, mental confusion, azotemia and impaired liver function, and appears between the fourth and the tenth days, but it is not entirely prevented by tanning, as we had hoped. True it may be diminished to some extent by the coagulation of the damaged tissue, but in view of the fact that the coagulated eschar is usually less than 1 mm. in thickness, and therefore, is rarely as deep as the subcutaneous tissues, complete tanning is seldom accomplished and certainly not in third degree burns.

In our experience the tanned eschar acts frequently as an occlusive dressing, preventing the escape of the retained products of decomposition and bacterial growth.

It is conceivable that the tanning process may coagulate the full depth of the dead tissues, but only in superficial burns of the first degree. Aldrich maintains that the toxemia of burns is largely due to bacterial infection, and has found that bacteria may be cultured from burned areas as early as 24 to 48 hours after the receipt of the injury. The hazard of infection is most serious, of course, when the subcutaneous tissues are involved. There is no doubt that in third degree burns, the tanning is always incomplete, and that beneath this tanned tissue there is some degree of infection present from the very beginning.

As a result of their experience during the present war, the British have largely abandoned the use of tannic acid for the hands and face, and consider it dangerous because (1) it may destroy viable epithelial islands which remain in the masses of burned tissue; (2) an even more serious hazard exists in the cracks and cuts which develop in the eschar itself, together with the elevation of the edges at its junction with the surface of the normal skin. Such breaks may provide portals of entry for bacterial invasion of the underlying and untanned dead tissue. Further, as Indoers claims second degree burns can be readily converted into the third degree by secondary infections of this type.

Perhaps one of the most severe criticisms of the tannic acid therapy is its constricting effect when it encircles the entire circumference of a limb or a digit. Under these circumstances ischemia at least, and frequently gangrene. may develop. The recent experience of the British surgeons has served to emphasize this serious liability of the tannic acid technique. We recall cases where the loss of a digit and of an extremity have occurred.

As a result of our own experience, and of the recent reports in literature, we have radically modified our local treatment of burns during the last six months. We have abandoned the use of tannic acid in burns of the face and digits when the burned area completely encircles the extremity, or is so deep or so placed as to interfere with drainage from the deep tissues. This has been with the hope that we may avoid, or decrease, the danger of cutting off the blood supply which has too often resulted in tissue ischemia, suppuration and gangrene.

Our use of tannic acid in burns is now confined to the flat surface of the chest, abdomen, thighs and back, and then only to these surfaces when we feel that the full depth of thickness of the dead tissue can be reasonably expected to be completely tanned. As the penetration of the tannic acid is rarely greater than 1 mm., this means that the subcutaneous tissues must not be involved by the burn. If, subsequently, evidence of dead untanned tissue beneath the superficial eschar is revealed, the eschar is removed as quickly as possible. This evidence is usually manifested within 48 to 72 hours after the accident, when the tanned eschar can readily be softened with gauze packs saturated with normal saline or soda bicarbonate solutions and removed piece-meal, or even by massive debridement.

After the eschar has been removed, the exposed raw surfaces are treated as are those of the face, feet, hands and digits at their primary dressing immediately after the injury.

1. Irrigation with saline solution.

2. Surgical debridement under a gas oxygen ether anesthesia if necessary.

3. The covering of the burns area with generous pads of gauze saturated with normal saline solution.

4. After an interval of 24 to 48 hours, but not until all the dead tissue has been grossly removed, the surfaces are powdered with sulfadiazine and covered with strip of vaseline gauze.

During this whole period the patient is kept at a temperature of 80 degrees Farenheit. Skin grafting is started as soon as all gross evidence of dead tissue has been removed.

The wounds primarily treated with the sulfonamides seem to epithelialize spontaneously without grafting in a larger percentage of cases than with any other treatment we have used. Of course, in many instances grafting still is necessary if all the epithelium has been destroyed.

It must be admitted. however, that any drug is freely absorbed through such raw surfaces, and to avoid any toxic effects, caution must be used to keep the blood concentration of the agent below the level of danger. The absorption of sulfonamides from such surfaces has resulted in blood levels as high as 31 mgm. per cent in our experience. With liver and kidney damage already established as a result of the burn, it is necessary to obtain daily determinations of the sulfonamide blood concentration, and this should not be allowed to rise above 10 mgm. per cent.

In some of our recent cases we have started grafting as early as the fifth day following the receipt of the injury, and we must give credit to the Padgett dermatome for this feat. We feel that this method of skin grafting has made possible what in the past we have considered impossible. We are now covering large areas of denuded skin with single grafts which are not only more likely to take, but there is less permanent disfigurement in these grafts than from any other method which we have employed in the past.

To summarize, our local treatment at the present time may be outlined as follows:

1. The relief of pain, and under strict aseptic precautions, debridement of the wound, and the application of normal sterile saline dressings, in all cases except first and second degree burns of the flat surface of the chest, abdomen, joints and extremities, which may be tanned.

2. The treatment of shock, consists in controlling the radiation of body heat, and combating the loss of fluids from the vascular stream into the perivascular tissues.

3. The prevention and combating of the toxemia resulting from absorption of the

products of dead tissue, extravasated plasma, and bacterial growth.

4. The minimizing of infection by the use of the sulfonamides.

5. Early skin grafting.

We believe that a new era is approaching, if it has not already arrived, in the surgical treatment of massive third degree burns.

The systemic treatment of severe burns is primarily that of traumatic shock. It is directed toward four objectives:

1. Restoration of a normal circulation.
2. Control of the fluid shift.
3. Maintenance of normal blood chemistry.
4. Nutrition of the patient.

1. Circulatory impairment must be corrected so that oxygen is transported to the tissues to prevent stagnant anoxia. As the circulation improves the urine output returns to normal. This protects the visceral organs and other tissues by prompt removal of toxic substances and prevents azotemia.

2. As the control of the fluid shift is the critical factor, it should be the first consideration. This will be discussed in considerable detail presently.

3. In regard to changes in blood chemistry resulting from a severe burn, the low plasma protein levels must be restored to normal; the frequent development of acidosis must be corrected with sodium bicarbonate or lactate administration; and plasma sodium and chloride levels must be kept within the normal range, especially if adrenal cortical extracts are being used.

4. Nutrition is an important item in the general treatment of the burned patient. If food cannot be taken by mouth, parenteral feeding is indicated. There is an immediate need for a high carbohydrate intake to build up glycogen reserves and protect the liver. Protein loss must be replaced immediately by plasma transfusions or more slowly by a high protein diet. Since a large proportion of the body sulphur is in the skin, sulphur containing foods such as egg yolk should be prescribed freely, as in massive chronic infections such as empyema. A high vitamin diet is indicated to stimulate wound healing and promote general well being. It is possible that the anemia following severe burns involves a nutritional factor.

The mechanism of the fluid shift should be reviewed because the rational treatment of burn shock is predicated upon a knowledge of its nature. It is the cause of the progressive circulatory failure which begins shortly after the injury is received and persists for two or three days and is characterized by a loss of plasma from the vascular tree resulting in a decreased plasma volume, hemoconcentration, a rapid fall in blood pressure, the typical picture of shock. The process is represented schematically in Figure 1.

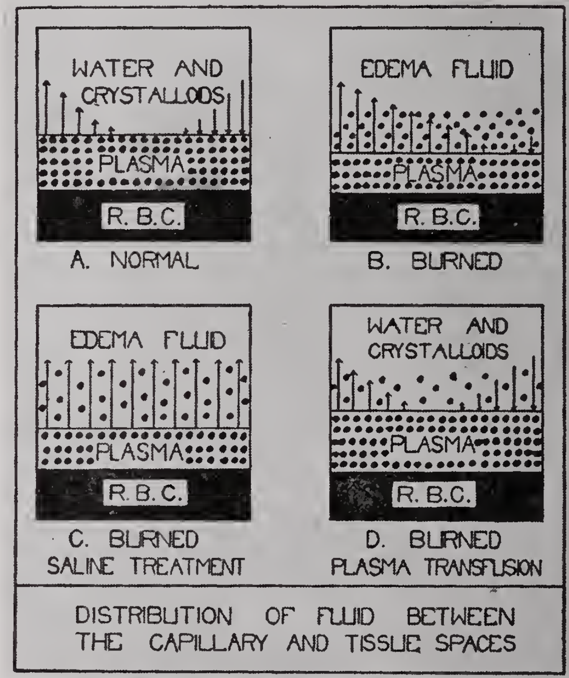

Fig. 1.

(Reproduced from the Pennsylvania Medical Journal 44, 1116, June, 1941).

At the arterial side of the normal capillary bed, water and crystalloids are drawn into the blood stream by the osmotically active plasma proteins which function like suction pumps at this point. In the burned area the permeability of the capillary wall is increased so that plasma protein passes into the tissue spaces. This interferes with this normal exchange of fluid between tissues and blood stream, and massive edema of the tissues follows. Intravenous saline or glucose and fluids by mouth immediately escape through the walls of the capillary bed and aggravate the edema without restoring the circulation to normal. Obviously, the rational treatment of this condition is the replacement of plasma by a transfusion.

The program of plasma administration for a severe burn is shown in Figure 2. Small plasma transfusions, 200 or 300 ml. each, given at the sixth, fifteenth and thirtieth hours prevented a dangerous drop in blood pressure and plasma volume. The leakage of protein from the vascular tree had largely stopped by the fortieth hour. A large plasma transfusion, approximately 900 ml., was then given to restore the plasma volume to normal. We have found that each patient shows a different requirement for plasma. Half a liter has been quite adequate for the less severe cases. A continuous infusion totaling three liters of plasma has been given to very severe cases. In general, except for cases of anemia and polycemia vera, enough plasma should be given to keep the hematocrit value below 55% and the plasma protein level above 6% until the capillaries return to a normal state of permeability. The amount of plasma needed to restore the plasma volume to normal may be calculated by Ukinton, Wolff and Lee formula:

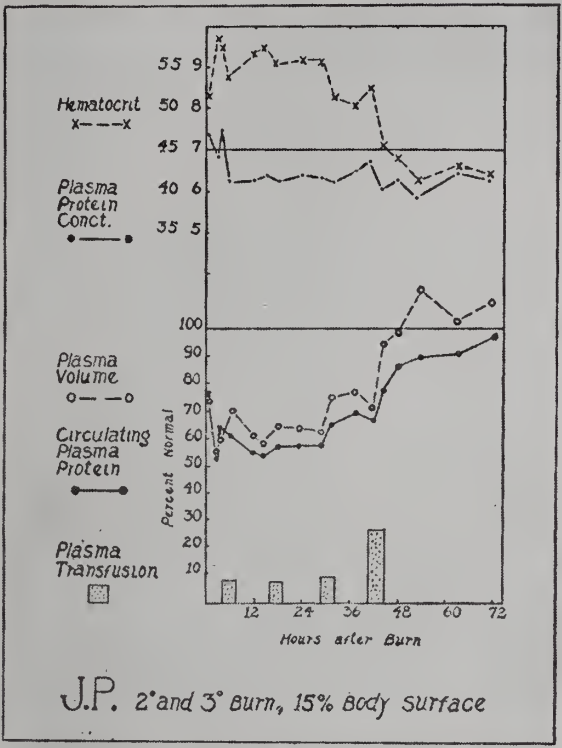

Fig. 2.

(Reproduced from the Pennsylvania Medical Journal 44, 1116, June, 1941).

Plasma protein requirement in grams:

$$3.5W-\frac{W\ (100\text{-}Ho)\ Hn\ Po}{2\ (100\text{-}Hn)\ Ho}$$

W=body weight in kilograms.

Hn= normal hematocrit value, per cent cells.

Ho=observed hematocrit.

Po=observed plasma protein.

The plasma protein requirement in grams multiplied by 14 gives the required volume in milliliters of plasma.

Recovery of the circulation is marked by dramatic changes in the patient's condition. Peripheral veins stand out, the pulse volume improves, cold extremities become warm, edema begins to subside and a diuresis frequently occurs. The type of treatment influences the recovery period, as shown in Figure 3.

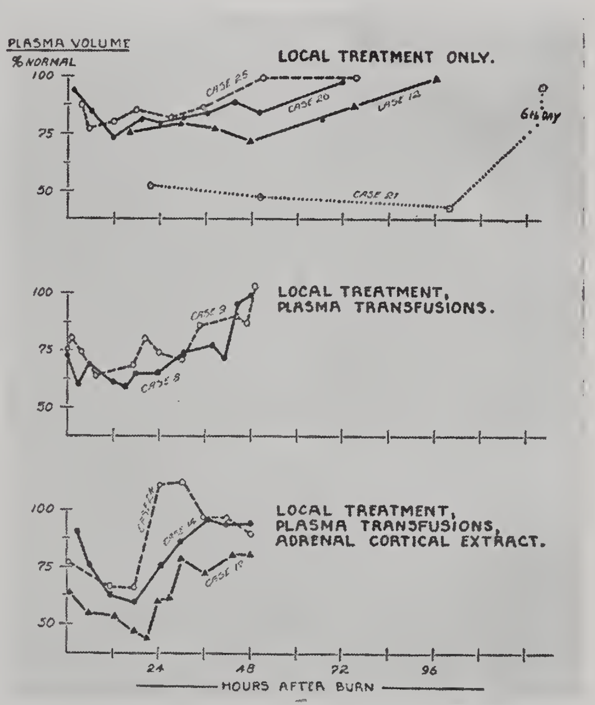

Fig. 3.

(Reproduced from Annals of Surgery 113, 958, June, 1941).

In rather mild burns involving 5 to 10 per cent of the body surface when given local treatment only the plasma volume remained below normal for three to six days. In a group of patients receiving local treatment plus adequate transfusions of plasma the circulation came back to normal about fifty hours after the burns. When adrenal cortical extract was added to the treatment the recovery period was shortened to some 18 or 24 hours. In other words, an average recovery period of 3 to 6 days in patients receiving local treatment only has been reduced to less than one day by cortical extract plus adequate transfusions of plasma. In our opinion a prompt recovery of the circulation and renal function should reduce the severity and duration of the toxemia phase.

A severe burn is followed by changes in tissues far removed from the site of the injury. Postmortem examinations have shown hemorrhagic changes in the adrenal cortex and intestinal mucosa, perilobular degeneration and necrosis in the liver, and pathologic changes in the kidney. In a patient who survived, (Figure 4) we have demonstrated extensive impairment of liver function by means of bromsulfalein dye retention, hippuric acid output, prothrombin time and glucose tolerance tests. These and other findings, together with clinical observations, indicate that a toxic condition usually follows a severe burn. Treatment must be empirical and supportive. A generous infusion of glucose solution and adequate Vitamins C-K fortifies the liver by building up the glycogen reserve. A prompt recovery of the circulation prevents stagnant anoxia and a diuresis should help eliminate toxic materials if they are present. Oxygen therapy may further reduce tissue damage caused by anoxia. Adrenal cortical extract has proven useful in a number of reported cases by preventing circulatory collapse. Sedatives are used if the patient becomes wildly delirious. Specific treatments for burn toxemia cannot be proposed until we know more about the etiology of the condition.

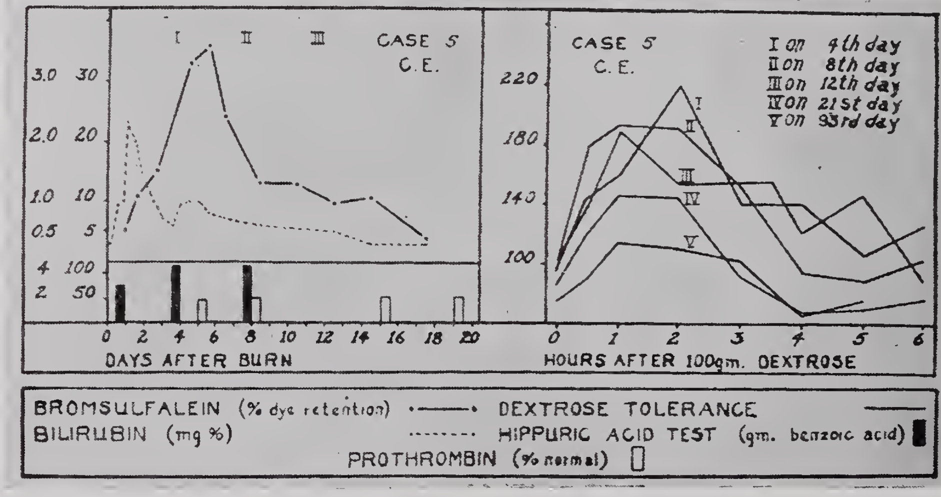

Fig. 4.

(Reproduced from Annals of Surgery 112, 159, July, 1940).

Translating our program into effective care for the patient requires considerable foresight and preparation. The personnel is organized as a "Burn Team." The group consists of three parts, a surgeon, the nursing service and the laboratory. In the large city hospital three or more surgeons together with consultants constitute the medical unit. The importance of good nursing should be emphasized. The burned patient requires minute to minute care which may determine the outcome of a critical case. This should be special duty continuous nursing care. Chemical control of therapy may be limited to a measuring of hemoconcentration and plasma protein levels with an occasional determination of the plasma, chloride and carbon dioxide combining power. A blood bank and a generous supply of plasma is indispensable. Bacteriological studies are required occasionally.

The patient on arrival at the receiving ward is given a quarter grain of morphia and placed in the shock position between sterile sheets. Blankets and hot water bottles are used if needed. Plasma is started immediately when the patient is pulseless and in profound shock. Local treatment is done with aseptic precautions in the operating room. Fluid shift, toxemia and infection are controlled by methods described. The final step is plastic repair.

A review by W. J. McNally, M. D., and E. A. Stuart, M. D., Montreal, Canada, in the current issue of War Medicine, of experimental work on the labyrinth or inner ear in relation to seasickness and other forms of motion sickness fails to bring to light any widely accepted explanation for the cause of the condition or immunity to it. "The labyrinth has been shown by experiment to play an important, probably the most important, part in the causation of motion sickness," the two physicians explain.

Neurocirculatory Asthenia

PART II

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This condition is not primarily a disease of the heart, of the circulation, or of the nervous system. The asthenia is a condition of the whole organism. The response of such asthenic individuals to variable circumstances is manifested most apparently, through the nervous and the cardiovascular system. The display of action in the heart, the evidence of vasomotor instability are the effect of stimuli brought to it by an over sensitive, poorly controlled nervous mechanism. White states: "Signs and symptoms suggest an unbalance of the autonomic nervous system." However, it has always been considered with cardiovascular disease, and has been referred to by many names. DaCosta, during the Civil War, called it the "Irritable Heart of Soldiers." In the first World War it had several titles: "Disordered Heart Action;" "Effort Syndrome;" "Soldier's Heart;" "Cardiac Inferiority." B. S. Oppenheimer originated the term "Neurocirculatory Asthenia" which is now chiefly used in the American literature.

The etiology consists of several factors: (1) Constitutional characteristics usually embodied in the designation of "asthenic type," "Glenard type" of old writers, or the "inadequate personality" of the psychiatrically inclined. These individuals have a poor posture, a narrow chest, are usually poorly nourished, although a few are obese. The peripheral circulation is feeble, as shown by small pulse, cold, damp blue extremities and distended veins. The heart is small and centrally placed in an erect position.

(2) Environmental factors may precipitate symptoms. The rapid changes from a sedentary to a very strenuous life, extreme exertion and fatigue with lack of sleep, mental strain and shock incident to combat may be more than these inferior individuals can endure.

(3) Toxins may also play an important part. Infectious diseases, such as influenza, upper respiratory diseases, etc., seem to make subjects particularly vulnerable. Foci of infection, unless gross, are probably not important.

The excessive use of tobacco in young adults so frequently seen in military life, and unfortunately, strongly encouraged by well intentioned "Service" organizations, is a potent factor in making even normal hearts irritable. Many asthenic individuals from previous experience find that they cannot tolerate tobacco and do not use it.

These individuals also find that their tolerance for alcohol is poor, and usually are abstemious. Alcoholism is rarely a factor.

SYMPTOMS

The normal response of some untrained individuals to strenuous exertion consists of breathlessness, rapid heart action, palpitation, vertigo, faintness, precordial pain, followed by exhaustion and tremor. The symptoms simulate those of hypoglycemia. Normally, with gradual increase of effort, these appear only in a tolerable degree, and finally with full seasoning even violent exertion can be endured.

In cases of N. A. C. this tolerance is not established, or not established with sufficient reserve to endure gruelling experience. This is especially true if those demands are extreme under adverse physical and mental environment.

SIGNS AND SYMPTOMS

1. Fatigability is extreme, even without exertion.

2. Breathlessness is present on slight exertion, or even at rest. Frequently it is a subjective sensation of an inability to take a full breath.

3. Palpitation is due to a sinus tachycardia. Rarely is there arrhythmia.

4. The tremor is of a coarse type.

5. Non-anginal precordial pain is a common complaint in N. A. C. It is usually a diffuse dull ache referred to apex or left margin of the heart (The poetical location of the heart of Crummer). It is not definitely related to exercise, or relief by rest, as in the case of true angina. The character of pain may be lancinating, stabbing, or catchy, and frequently repeated. It may radiate to either shoulder or arm. Signs of shock are

lacking. The importance of this symptom lies in its proper recognition and its definite differentiation from a true anginal syndrome. This anginal syndrome is not uncommonly precipitated by tobacco smoking in sensitive individuals or even by excessive use in fairly normal persons. Tension states may cause a similar symptom complex. The older writers alluded to this as psuedo-angina, caused by such factors as (a) failure of adaption to environment, (b) the masturbation remorse complex, (c) the practice of coitus interruptus (Krehl's disease).

Precordial pain may be due to causes within (1) chest wall, as intercostal muscle strain, intercostal neuralgia or radiculitis, (2) the chest appendages, pectoral myalgia, or painful shoulder, (3) pleurisy, (4) abdominal distension as seen in the gastro-cardiac complex.

The management of N. C. A. consists in (1) excluding the most marked cases from military service, (2) placing moderate cases in a proper environment of less strain and responsibility, at least avoiding positions which involve welfare of others, (3) proper seasoning of the milder cases will develop them into nearly normal subjects.

In those who could be rehabilitated it was found that those who were kept near the scene of action, as the group managed by Hume in France, did considerably better than those invalided to England. It is also maintained that they did better if handled in general hospitals than if sent to special hospitals for cardiac or neuropsychiatric cases. The treatment consists of improvement of nutrition and mental attitude and the use of graduated exercises.

Hyperthyroidism is frequently with difficulty differentiated from neurocirculatory asthenia.

	HYPERTHYROIDISM	N. C. A.
Skin	Moist Pink	Cold Cyanotic
Attitude	Optimistic Ambitious	Depressed Pessimistic Discouraged
Appetite	Very good Eats large amounts	Poor Eats little Finicky
Temperature Tolerance	Always hot Likes cool environment	Easily chilled Feels best in hot
Clothing	Light	Heavy
Bedding	Wants less covers than bedfellow	Wants more covers than bedfellow
Heart rate	Always fast, even during sleep	Variable—may be slow especially during sleep

Cardiac Psychoneurosis: This condition, even less than N. C. A., should not be classified as a cardiocirculatory disease. If the condition is sufficiently marked it should be handled with other psychoneuroses. Those afflicted with a fatigue or anxiety neurosis or hypochondria may over emphasize a heart action which they can feel. Precipitating factor may be the careless or improper presentation of a heart finding by the examiner to the patient, but this cannot be accepted as the fundamental cause.

Palpitation is the most frequent psychoneurotic symptom. This may be the result of excessive rate or irregular heart action.

Pain in the precordium is another common complaint. This involves a careful search for other sources of this pain.

Neurotic nocturnal dyspnoea is characterized by other signs of anxiety. Instead of being unable to lie flat in bed, frequently sitting up as in genuine cardiac type, the neurotic individual puts his head under the covers.

When a cardiac neurosis is definitely identified, he ceases to be a cardiac problem. In fact the symptoms referable to the heart must be managed as a part of the neurotic state.

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Surgical Infections of the Kidney*

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Frequently unexpected clinical infections of the kidney are found by the pathologist, infections which gave few, if any, symptoms. Fortunately most kidney infections produce such definite symptoms that they may be easily recognized by a well trained physician. Often enough, however, the local symptoms are so slight or negligible that a diagnosis of renal involvement can be reached only by a process of exclusion.

In cases which for one reason or another ureter catheterization can not or could not be employed, the clinician is left in a quandary. He may be in the same position even though he avail himself of all the newer diagnostic aids and may fail to recognize a serious, or even a fatal lesion which involves the kidney cortex, and which does not communicate freely with the excretory channels.

Experience teaches that there are many cases of colon bacillus pyelonephritis with multiple foci of suppuration in the kidney parenchyma, in which pain and local sensitiveness are very slight or completely absent. Likewise, when the infection is limited to the kidney cortex, as in staphylococcus infections, when the urine is normal, when the most careful functional studies and pyelographic work show nothing abnormal, and when there are no local symptoms, the situation is decidedly perplexing and the diagnostician must leave no stone unturned in ruling out an acute suppurating infection of the cortex of one or both kidneys.

Though the clinical picture presented by these cortical infections in previously normal kidneys may vary from the most acute disease to a more or less chronic one, usually the diagnosis can be made and proper therapy instituted before irreparable harm to the kidney is done. There is a difference between these acute cortical infections and the ordinary infection of the kidney pelvis, commonly called, pyelitis or pyelonephritis, which result from such organisms as the colon, proteus, pyocyaneus and other bacilli. Of these conditions, pyuria is characteristic, while in the coccic cortical abscesses, urine is usually clear. Unfortunately these two types of urinary tract infections may not infrequently combine and reside together, thus making for greater clinical confusion. Rarely coccic infections and bacillary infections occur together and make the diagnosis much more difficult. Certain cortical infections, whether coccic or bacillary, are frequently superimposed on a previously diseased kidney, such as an infected hydronephrosis, pyonephrosis, or calculus pyelonephritis and may be found more rarely on tuberculous or polycystic or neoplastic kidney disease. This type of cortical abscess, as opposed to the metastatic abscesses which occur in the cortex in a previously healthy kidney, only occasionally leads to suppuration in the perinephric tissues.

Occasionally the physician sees the extremely peracute, fulminating, unilateral, septic, hematogenous infections which occur as a part of a general, overwhelming sepsis, in which although the symptoms may be definitely unilateral, yet both kidneys, the lungs, and other organs, show embolic abscesses. In these fulminating cases, while the symptoms and signs are limited to one side, early surgical interference may effect a cure, although usually the situation is so alarming, and the general condition of the patient so poor that any surgery instituted is of little avail. By far of most pertinent interest to the surgeon is that large group of cases of renal cortical abscesses and cortical carbuncles which rarely get well without incision, drainage and decapsulation or nephrectomy, and which underlie almost all cases of perinephric abscess.

Cortical abscesses of coccic origin, not caused by direct injury, are usually secondary and not infrequently tertiary to a focus of infection or abrasion, perhaps weeks or months earlier and often forgotten by the patient. The primary infection is usually in the skin and may be represented by a furuncle, an abscess, a carbuncle, or a paronychia, an infected wound, or the lesion may have been from an abscess of the prostate, or of the testes, or from erysipelas, or from an infection around the teeth, and only rarely is a renal cortical abscess due to a systemic infection without evident history of skin suppuration. Infection of the upper respiratory tract, including tonsilitis, subacute or chronic osteomyelitis, may, however, be the primary offending factor. To speculate on how the coccic emboli or the microscopic mass of cocci arrive at the kidney and lodge in the small end arteries is most intriguing. Yet the astonishingly certain thing about it from clinical observation is that coccic emboli do finally reach this destination in the kidney cortex.

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*Read before Nebraska Seventy-fourth Annual Convention. Omaba, May 7, 1942.

It would seem that the routes of lodgement are rather difficult and involved. If the embolus lodges in the glomerular vessels or in one of the terminal branches of the arteries under the capsule, one or more localized abscesses are liable to develop. And the acuteness of the symptoms are directly in keeping with the virulence of the organism and the patient's ability to combat the invader. In this manner are established the discreet multiple miliary cortical abscesses. On the other hand, if the embolus lodges in the vessel well below the cortex at a bifurcation of the small vessels, an infarction will develop, involving a typical conical area of the cortex, which breaks down and leads to a coalescence of innumerable small abscesses in the infarcted area, thus producing the picture of the so-called carbuncle of the kidney. It is not inconceivable that an occasional case thus afflicted, does and will subside after a long and septic course without surgical interference. However, experience teaches that the great majority of both these types of cortical infection are progressive and lead to involvement of perinephric tissues, thereby establishing a perinephric abscess.

In view of the rather constant pathologic condition with frequent suppuration in the perinephric tissues associated with cortical kidney abscess in previously healthy kidneys, the bacteriology of the pus in both the cortical abscess and the perinephric tissues almost regularly shows the same organism; namely, staphylococcus aureus. In a few cases, some member of the streptococcus family is isolated, and in rare instances the staphylococcus albus. When cortical abscesses and perinephric abscesses occur in previously diseased kidneys, a mixed group of organisms such as colon bacilli, proteus, pyocyaneus, and the aerogenes have been identified. Staphylococcus aureus is an unusual finding in this type of case. These organisms are usually identified in the voided urine, and at times, when cystoscopy and ureteral catheterization have been carried out, these organisms have been found only on the side of definite disease. The urine culture in the typical coccic cortical infections in previously healthy kidneys may fail to demonstrate the staphylococcus aureus.

Clinically, metastatic coccic infection of the renal cortex has become more intelligible since physicians have a clearer understanding of the pathology and have been on the alert for these cases.

Interestingly, the clinical picture now is somewhat different than it was twenty-five years ago. At that time these patients usually presented themselves with a bulging, tender, lumbar abscess, often associated with psoas contraction, simulating either Pott's disease of the spine or hip disease. Not so many years ago, the orthopedic surgeon frequently described the end result of these cases, as they were referred to him for the foregoing symptoms, before the correct diagnosis was made.

However, the clinical picture may vary from a very acute, fulminating process with chills, high temperature, and pain in the back to that of a subacute or chronic septic condition. Fortunately in the great majority of cases the picture is rather typical and therefore is easily recognized. A few of these cases make a very obscure picture and a rather bizarre behavior leading to a late diagnosis, several months or even a year or more following the beginning of the infection. The reason for this is readily understood when one considers that the virulence of the staphylococcus aureus and the resistance of the patient vary decidedly.

While the pus focus is yet confined under the fibrous capsule of the kidney and therefore under considerable tension the symptoms not infrequently are very striking, and as the cortical abscess ruptures its way through the capsule into the perirenal fatty tissues, symptoms may temporarily subside, only to become more definite as tension develops again in due time in the perinephric space, only to disappear again when the tension decends through the two leaves of Gerota's fascia downward toward the pelvis. In this trend of events, the physician may be beguiled into the idea that the patient is getting well spontaneously, but, in these apparent repeated periods of convalescence and improvement, operation becomes more imperative and discloses in addition to the perinephric abscess, the primary offending factor in the kidney, either a cortical abscess or renal carbuncle.

Characteristically this disease is ushered in with a rise in temperature with or without chill, with pain in one or both lumbar regions. Physical examination of the renal area is usually not striking, the kidney, or kidneys usually are not felt and if palpable, strange to say, the kidney may be movable. Percussion tenderness is usually manifest over the costovertebral angle on the side of the involved kidney. There is a continuance of the temperature elevation, and usually a very manifest loss of weight and progressive anemia. The patient becomes pasty looking and suggests sepsis. Through this febrile period, leukocytosis is almost a constant factor, while an examination of the urine at this stage, shows little or nothing. In view of the fact that the cortex only is involved in these cases, it is not surprising that the urine is clear and practically negative macroscopically and microscopically.

Moreover, the functional tests of the kidney and the blood examination for retention products are apt to be negative. A preliminary roentgen examination is essential. It is universally recognized that a scout film may frequently help to clarify the diagnosis by demonstrating a curvature of the spine away from the area of pain and tenderness and a partial or complete obliteration of the sharp edge of the corresponding psoas muscle. This x-ray finding in the presence of a macroscopically clear urine, is a corroborative sign of perinephric suppuration.

In certain of the protracted and more obscure cases, a series of flat roentgenograms of the kidney area show gradual enlargement of the kidney shadow, which in the absence of an obstruction in the ureter can only mean that while under observation the kidney has become gradually more and more involved, producing an increase in the size of the shadow. Occasionally in the roentgenogram, one may see an irregularity or a hump corresponding to a suppurative process, either under the capsule or in the perinephrium, which also may help in the more chronic cases in elucidating the clinical picture. In an occasional case actual anterior and mesial displacement of the kidney can be seen. Further x-ray observation, especially in upper pole involvement reveals gradual pushing up of the diaphragm or a fixation of the diaphragm which is due to local edema or exudate. Excretory intravenous urogram studies and retrograde pyelograms have repeatedly helped out in the diagnosis of some of the subacute and chronic cases, by demonstrating either a pushing apart of the calycies above or below the abscess, or by demonstrating, particularly in the carbuncle cases, compression phenomona involving the kidney pelvis and two or more calycies simulating neoplasm of the kidney. Especially is this observation pertinent before the cortical abscess has pushed its way through the cortex and through the capsule into perinephric space. There is a considerable group of these cortical abscesses which involve the anterior surface of the kidney, which may eventually rupture into the anterior perinephric space presenting the symptom complex of an acute abdominal disease, often suggesting either gallbladder infection, appendicitis, acute pancreatitis, occasionally liver abscesses or even a visceral perforation. Not infrequently lower pole cortical abscesses will produce the same type of irritation of the peritoneum, and, if on the patient's right side, the aforementioned clinical pictures may be definitely simulated. In these groups, if one is not aware of the clinical entity, the surgeon may be confused and approach the field transperitoneally. Such surgical procedure can only invite trouble especially that of peritonitis.

The typical, acute case of cortical abscess whether associated with or without demonstrable bacteremia, should be recognized and should be treated surgically by incision, drainage and decapsulation. Large rubber dam drainage in front and behind the decapsulated kidney should be left in place for drainage, the wound should not be sewed tightly and if the abscesses are then thoroughly drained this relatively simple procedure is usually curative.

The importance of leaving these wounds fairly wide open is to be emphasized since the whole area is infected with staphylococcus aureus pus. By so doing, the surgeon minimizes the chance of following retention abscesses in the parietes. Recurrent elevation of temperature demands prompt exploration of the wound. Exploration, digital or otherwise is greatly facilitated through the open wound. In one case at the end of the third week digital exploration enucleated a well demarketed infarct from the kidney, there was no bleeding, and a small iodoform pack placed in the cavity was all that was necessary.

I can not too strongly admonish against primary nephrectomy in these cases and if it becomes necessary at all, after drainage has been instituted a nephrectomy can be secondariy done. Renal capsulation alone will not infrequently lead to a complete cure. Even where extensive carbuncles or innumerable abscesses are present, decapsulation with incision of the abscesses or with enucleation should be done as the first step. Should this be ineffectual and if nephrectomy becomes necessary, it can readily be done, as the kidney lies free in the bottom of the wound and can easily be delivered and its pedical tied off. In three recent cases, sulfanilamide or sulfathiazole powder was amply deposited in the wound. In no one of these three cases can it be felt that the recovery was enhanced. In the first place with the wound so wide open there is but little systemic absorption, and in no case did the blood level rise above three mgm. per cent. In two cases it is felt that the powder was definitely a detrimental factor, in that the powder did not dissolve but rather established a well organized deposit which acted as an irritant and was later removed digitally. I believe that copious instillation of Neoprontosil solution into the wound daily is of benefit, likewise, certain of the sulfonamides by mouth in sufficient amount to maintain about an eight mgm. blood level enhances the cure. In one recent case of multiple cortical abscesses following a boil on the elbow, sulfonamides were given empirically and continuous for a period of several weeks and in this case, I believe the only purpose served was of obscuring the picture diagnostically and prolonging the disease decidedly before proper surgical interference was instituted.

SUMMARY

Cortical abscesses and renal carbuncle are presented as distinct pathological and clinical entity. These conditions are not infrequently difficult of diagnosis, but a careful history, with inquiry into antecedent superficial infection with an alert suspicion that cortical infection of the kidney must be ruled out, and with careful correlative study of the history, physical and x-ray finding, the diagnosis can be established. Treatment by adequate incision, decapsulation, and drainage usually is curative.

The sulphonamide group of drugs is a definite treatment adjunct.

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IN THIS ISSUE

A COMPREHENSIVE discussion on severe burns was delivered by Drs. Lee and Wolff a years ago at the sessions of the Omaha Mid-West Clinical Society. By courtesy of the Society the paper is reproduced on page 369.

DR. F. W. NIEHAUS completes his discussion in Part II, "Neurocirculatory Asthenia" on page ....375.

THOSE who heard Dr. Arbor D. Munger read his paper before the last session of our Association will enjoy reading about "Surgical Infections of the Kidney" on page 377.

AN interesting discussion of "The Value of Salicylates as compared with the Sulfa Drugs" is submitted by Dr. Swenson. The original paper was read at the last assembly of the Nebraska State Medical Association. Page. ....381.

THE various ways in which the sulfa drugs are employed in general surgery was the topic of a paper read by Dr. Fred C. Hill at the last Annual Assembly. It appears on page ....384.

AS part of a symposium on coma discussed at the Annual Assembly of 1942, the paper by Dr. Muehlig is submitted on page ......386.

A system of medical, obstetric, pediatric and hospital care for families of men in the service is published in full on page ....388.

DR. THOMPSON has for several years been doing laudable work in connection with popularizing dental information under the auspices of our State Health Department. Read his paper on "Control of Dental Caries" on page ....392.

The Value of the Salicylates As Compared with the Sulfa Drugs*

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The title of this paper is perhaps a misnomer. It could be called an argument against discarding remedies of proven value for those which are still in a semi-experimental stage.

No argument is necessary in favor of the sulfa drugs. They have been adopted as enthusiastically as have the vitamins by our profession as well as the laity, but they are most certainly not without disadvantages and dangers. In my limited experience I have seen several cases of hematuria, gastric upsets, drug fever and skin rashes. One was a case of generalized urticaria from sulfathiazole, given in a case of pneumonia which required a change to sulfadiazine. One case of pneumonia with pleurisy could not take full doses of sulfathiazole, but tolerated sulfapyridine fairly well. This patient died recently after returning from the University Hospital where she had been treated since Christmas. An old lady of about seventy years who was seen with Dr. Hook developed hematuria and suppression under treatment with sulfathiazole. She was placed on sulfadiazine but still did not put out enough urine, in spite of frequent intravenous injections of glucose. She developed an empyema and died suddenly before her pus was drained.

While the salicylates have not been accepted generally in the treatment of pneumonia, they have been considered of at least semi-specific value against rheumatic fever. Their benefits in rheumatic fever were first presented in my student days while I served as student intern at the Swedish Mission Hospital. A case of rheumatism was being treated by a staff doctor whose chief interest was surgery rather than medicine. The patient was not very ill on admission and at first there was a question whether he had sciatica or arthritis of the hip. He was given 5 grain doses of salicylates, changing from one kind to another, but grew worse steadily and soon had all the symptoms of a severe case of rheumatic fever.

Shortly before this time I had had the privilege to listen to a lecture on the treatment of rheumatic fever by the late Dr. Leroy Crummer. Dr. Crummer was a superb teacher and an excellent therapist. He used few drugs, but those that he did use he used for effect, and he knew their action. He advocated the use of full doses and the avoidance of mixing drugs.

Having the confidence of the nurses at the hospital the writer swore them to secrecy and requested them to follow his instructions, condoning his breach of ethics by his hope of accomplishing something worthwhile. The patient was put on full doses of sodium salicylate, with the result that he slept without morphine from the first and soon was fever-free and without pain. About a week later on regular ward-rounds his physician made this remark: "It is queer about this patient. I treated him with salicylates and he constantly grew worse; then I stopped the salicylates, giving only heart medication, and now he is getting well." I did not dare reveal the secret, but did so years later during a chance meeting on the train between Omaha and Oakland and was given my deserved rebuke, in a perfectly friendly way.

In something over thirty years of practice, I have never found it necessary to keep a case of rheumatism suffering in bed, with high temperature and pain, over any extended period of time; nor do I recall a badly shattered heart where the case has been under care in its earlier stages.

A typical case was that of a young girl brought to the office at Oakland complaining of "growing pains." She was walking to school every day, about a mile each way. The heart showed a marked valvular lesion in the mitral area. Her tonsils gave evidence of infection and were the probable cause of the "growing pains" as well as the heart lesion. The mother was advised of the situation and urged to take the child out of school, put her to bed and give her full doses of acetylsalicylic acid, and have the tonsils removed as soon as possible. She rather reluctantly complied. A call at the farm home a few days later found the little girl much improved and free from rheumatic symptoms, and a short time afterwards the tonsils were removed. Some years later the same girl was seen during a routine examination of the high school and not even a slight cardiac murmur could be detected. She had grown up into robust health.

A second case is that of a high school girl who exhibited fever with joint-pains and a heart murmur. Recovery followed short treatment at home in bed and removal of infected tonsils.

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*Read before Seventy-fourth Annual Convention, Nebraska State Medical Association, Omaha, May 5, 1942.

A farmer was being treated for rheumatism who had subacute tonsillitis. When told that the tonsils were probably the cause of his trouble he insisted upon having them out at once. This was before the writer had become impressed by the danger of operating during the presence of acute symptoms and before Oakland had a hospital, so the tonsillectomy was performed in the office and the patient returned home. He almost bled to death the following night, but made a good recovery with the aid of salicylates and had no recurrence of his rheumatism in the knowledge of the writer.

The salicylates are not without their advocates in the treatment of rheumatic fever. Dr. J. M. Henske in a paper before the Madison Six-County Society in 1937 urged full doses of acetylsalicylic acid for children, both as a preventive and a cure for rheumatic heart disease. The late Dr. Harold Gifford prescribed one grain per pound of bodyweight per day of sodium salicylate or acetylsalicylic acid in cases of rheumatic iritis; and he cured his cases. In review of literature it is noted that Wilkinson(1) gives twice the dose of Dr. Gifford, as high as 240 grains per day to a child of ten; stating that this can be given for weeks without harm if twice the dose of sodium bicarbonate is used. To me it does not seem necessary to give that much and few patients would tolerate it. A good maximum is a grain per pound of bodyweight per day with an equal amount of sodium bicarbonate or sodium citrate. Gibson(2) of Chicago, in reviewing 1,500 cases of rheumatic fever advises the therapeutic test by giving salicylates to substantiate the diagnosis when in doubt. He gives a maximum of only 60 to 80 grains per day to a child of ten. He believes that they exert more than a palliative effect.

It is difficult however to persuade many physicians, especially the younger men, that salicylates constitute more than a palliative. An incident is recalled while at Ft. Lincoln, N. D., on a tour of active duty with the C. M. T. C. The C. C. C. Surgeon stationed there asked me for an opinion on an enrollee in the station hospital who had been admitted early in the spring with a sinus infection. This was in July. The patient had only an occasional slight elevation of temperature to 99° F., which had escaped attention. The heart was badly affected. A diagnosis of acute valvular endocarditis of rheumatic origin was made and treatment with salicylates was recommended. Both the attending surgeon and his colleague, who was an able regular army lieutenant, maintained that salicylates were of value only for relief of pain.

In 1914 I reported eight cases of lobar pneumonia treated with salicylates(3) all of whom recovered, and practically all temperatures fell by lysis rather than by crisis. In 1931 I reported further experiences with pneumonia(4), still contending that lobar pneumonia could be aborted by means of salicylates.

Since 1931 I have served as camp physician in various C. C. C. camps, spending one winter in northern Minnesota, one in North Dakota, one in Montana, one in southern Kansas and one in southern Missouri. In all 18 cases diagnosed as pneumonia were treated during this time. All recovered and the temperature in each case receded by lysis. The average pyrexia was about 48 hours. During the winter and spring spent in Montana ten cases of pneumonia followed an epidemic of influenza. The camp was located about 100 miles from Fort Meade, South Dakota, where sputa were typed. There were no cases of types one, two or three. There was one type eight, one type seven, and one type six. Two cases started as moderately severe typical cases, with bloody sputum and other acute symptoms. Orders called for the use of serum if at hand or obtainable. In one case, after typing and finding type six, a radiogram was sent to Fort Lincoln. Serum was dispatched by air-express to the nearest express office which was in South Dakota, rather than to the rail-head at Miles City one hundred miles from camp. The subaltern set out with the ambulance to get the serum, driving through a snow storm by way of Miles City, nearly 500 miles in all. He returned shortly after midnight and by this time the patient had a normal temperature; so the serum was given to a new case which had developed in the meantime, but which proved to be of a different type.

The papers in North Dakota and Montana carried an account of the wonderful cure worked by the serum, as the patient was supposed to have been moribund before the serum arrived.

I had missed one important reference to the treatment of pneumonia by means of the salicylates in my former studies. It was a report by a German physician(5) who acted as a locum tenens for an older practitioner in 1900. He had an experience similar to mine and to that of Solis-Cohen(6) of Philadelphia, with quinine. The former reports 68 cases of pneumonia of all ages treated over a period of nine years, with two deaths or about three per cent. If the treatment was started during the first 24 hours a crisis resulted in about 48 hours. In 1914, after reviewing the works of Wright, Morgenroth, and Solis-Cohen, I made a prediction that in the future chemotherapy would become as important in the treatment of disease as serotherapy was at that time. I believe that that prediction has become a fact. I wish to urge that in cases of respiratory disease, rheumatism and other systemic infection of focal origin, or where the sulfa drugs are contraindicated, the salicylates in full doses be given a fair trial.

CONCLUSION

1. Salicylates are probably bacterostatic in respiratory infections as well as rheumatic infections, if given in full doses.

2. They should be given in doses of about a grain to the pound of body weight per day in acute conditions.

3. In acute respiratory infections, especially pneumonias, if given at all they should be given every 2 hours in order to avoid chills between doses.

4. The sulfa drugs are probably superior to the salicylates in the ordinary case of respiratory disease, and should be used unless contraindicated.

DISCUSSION

J. A. HENSKE, M. D. (Omaha): If one is associated with a Heart Clinic or a charity hospital, one realizes the number of poorly treated children with rheumatic infection. Many of these children could probably have been saved their carditis and following complications if properly treated early for their rheumatic infection.

We have advocated large doses of salicylates for a great many years.. In acute rheumatic fever we do not hesitate to give a child five or six years of age from 60 to 120 grains in the first twenty-four hours and gradually tapering off the dose and continuing for a great length of time.

I think the majority of them discontinue the salicylates too early and also do not give sufficient amount of salicylates.

I am glad that Dr. Swenson has brought out the point that it is necessary to give large doses. You will find the same true of your sulfonamides. And we have a better way of determining our dosage from the blood levels. We have no method in determining salicylates from blood levels at the present time, at least one that is practical.

Dr. Swenson mentioned that some years ago I spoke of the prevention of rheumatic fever. I did not speak of the prevention of rheumatic fever by the use of salicylates but children who have had rheumatic infection and carditis, according to the mothers who have given the salicylates, are much more comfortable and much more free from upper respiratory infections and recurrence than the ones not given.

This was done by Dr. Kaiser of Rochester, N. Y., and also by Dr. Peterman of Milwaukee.

The use of sodium bicarbonate with salicylates is something I have not done. I have never seen a case of acidosis develop in a child due to salicylates in large doses. In adult medicine they use a great deal of sodium bicarbonate. We do not use much, if any, sodium bicarbonate with sodium salicylate. We give it to most of the patients and if necessary we do give a larger dose, which we give by rectum, and we find we can give a child from 50 to 100 grains per rectum in addition to acetylsalicylate by mouth.

I am glad Dr. Swenson brought up the subject, an old subject, but when you go through the state and see the number of rheumatic cases with carditis developed, who have not been properly treated in the early stages and in which many of them I am quite sure would not have developed a carditis if properly taken care of, it is a subject we may well consider.

Another thing. The removal of tonsils in children. I think every child is entitled to proper laboratory tests. I believe the sedimentation rate should be made, and I think it is one of the best tests we have to find out whether or not the infection is still active. If the sedimentation rate is normal and the child is gaining in weight, free from temperature and general condition is improved, I think the tonsils can be removed with safety.

Many times we see a child come into the hospital twenty-four hours following a tonsilectomy, in an acute dilatation of the heart and death following. It is a rather common experience that we see at the University Hospital, where the tonsils have been removed in early cases of acute infection.

S. A. SWENSON, M. D. (Rushville): I just want to say that I appreciate Dr. Henske's discussion, which has added to my idea about the salicylates.

I have no further remarks.

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Chemotherapy in General Surgery*

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Confronted with a case in which gross peritoneal contamination is present or unavoidable, surgeons have for years sought some procedure or medication which would prevent the almost inevitable infection. They have poured ether into the abdominal cavity; they have washed out the peritoneal cavity with liter after liter of water or saline solution; they have poured a dram or two of mercurochrome over the coils of bowel; but never until the last two or three years has there been available any drug which could be used in these cases with confidence in its value and certainty as to its harmlessness.

The ideal medication would be one which would diffuse throughout the tissue fluids in a concentration sufficient to be bactericidal without being toxic to the organism and actually none of the sulfonamides completely reach this requirement. In doses which are reasonably safe they do not kill bacteria but are bacteriostatic for certain organisms. Fortunately however, if the bacteria are exposed over a long enough period of time to this bacteriostatic action the wound becomes sterile. When sulfonamide is given by mouth the concentration of the drug in the tissue fluids is usually less than that in the blood, and since it is not considered safe to produce blood levels higher than 12 to 15 mg. per 100 cc. the tissue fluid concentration is of necessity limited. However, where the drug can be administered or implanted at the site of the infection the tissue fluid concentration in that area is much higher than that in the blood and very favorable results can be obtained. When 10 to 12 grams of sulfanilamide are implanted in the peritoneal cavity the concentration of the drug in the peritoneal exudate has been found to be from 200 to 300 mg. per 100 cc., while the average blood level was only 7 mg. per 100 cc.

It has been determined by experimental studies that the peritoneal response to sulfanilamide is similar to that produced by a very mild irritant. Sulfathiazole and sulfadiazine have a tendency to clump and according to some investigators produce foreign body reaction and adhesions. Others who had occasion to operate on patients after these drugs were used did not find such effects and it would be difficult to explain adhesions found in a patient who had recovered from generalized peritonitis as due to the drug and not to the disease.

Ferguson has recently reported on studies made with very finely ground sulfathiazole and sulfadiazine suspended in saline solution in a strength of 10 to 20%. This forms a material which resembles milk of magnesia and the particles remain in suspension and can be injected through a syringe. Using this preparation he found no evidence of peritoneal irritation when experimental animals were examined a week after implantation of the drug.

Sulfadiazine, the newer drug, is as effective against streptococci as sulfanilamide and it appears to be less toxic. It is readily absorbed and rather slowly excreted so that effective concentrations can be reached and maintained more easily.

Sulfathiazole is the most effective drug in the treatment of staphylococcus and colon bacillus infection and because of the fact that most peritoneal inflammations are due to a mixture of organisms it seems better to use a mixture of equal parts of sulfanilamide or sulfadiazine and sulfathiazole. The amount of these drugs to be used in the abdominal cavity depends on the age and weight of the patient. For adults a maximum of 12 grams should be placed in the peritoneal cavity and not more than 3 grams more in the abdominal wall. In young children and infants a total of not more than 3 to 4 grams should be used. If necessary, the drugs can be given later by mouth in order to keep the blood concentration up to the desired level of 10 to 15 mg. per 100 cc. These figures apply whether a drain is used or not, because with the ordinary soft rubber drain there usually is little or no drainage for several days after operation.

Although sulfanilamide and sulfathiazole are, to a certain extent, self-sterilizing, it is preferable to place the powder in test tubes and sterilize it by dry heat at 140° centigrade for 4 hours. If any yellowish discoloration is apparent in the powder after heating, it should be discarded because oxidation has occurred.

The sodium salts of sulfathiazole and sulfadiazine are intended for intravenous use in cases where they cannot be given orally. They should not be used intraperitoneally because they are strongly alkaline and may cause considerable damage to the peritoneum.

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*Read before Seventy-fourth Annual Convention, Nebraska State Medical Association, Omaha, May 5, 1942.

It hardly seems necessary to enumerate the various intra-abdominal conditions in which the use of these drugs is of value. Any condition in which there is danger of peritoneal infection or in which an important suture line might give way affords an opportunity for the increased safety provided by the sulfonamides. Even the patient with generalized peritonitis, heretofore condemned to the Ochsner treatment, may justifiably be operated upon to remove the focus of infection and implant this medication.

In the patient with peritonitis due to a ruptured appendix intraperitoneal injection of sulfanilamide by means of a needle has been urged, but I believe that more chance will be given to the patient if the abdomen is opened and the appendix removed, and that unless the distention is too pronounced, operation should be done. I have not yet had the termerity to rely entirely on the intraperitoneal implantation of sulfonamides and close a case of ruptured appendicitis and spreading peritonitis without drainage, but it is possible that that may become the procedure of choice.

Aside from the use of sulfonamides at the time of operation there is an important field for their use prophylactically to prevent peritonitis. For instance in patients who are about to undergo a resection of the large bowel, sulfanilamide may be started in doses of one gram every 4 hours on the afternoon prior to the day of operation and continued until about the 7th postoperative day. Sulfanilamide by mouth may also be used routinely in the post-operative treatment of appendicitis. In such cases, as in the treatment of any infection, an attempt should be made to keep a concentration of 10 mg. per 100 cc. in the blood. In general the total daily doses will be about 0.1 gm. per kilogram of body weight and this is divided into 6 parts and given every 4 hours during the day and night. The sulfonamides at the present time have so great a vogue that there is a tendency to use them in the treatment of all superficial infections. They are very satisfactory for this purpose but are particularly valuable when placed in deep wounds. It must be remembered however, that adequate surgical therapy must always be used in conjunction with chemotherapy and that when they are applied to a large denuded area, absorption is very rapid and there is considerable danger of toxic manifestations. If no less than 10 grams of sulfathiazole or sulfanilamide per day are used on a wound the probability is that there will not be an excessive blood concentration. Cyanosis during adequate sulfanilamide therapy is common and although not desirable, it seems to have no serious significance. If there is an adequate indication for the use of these drugs and the dosage is kept within the limits mentioned previously, the danger of toxic manifestation is essentially less than the benefit obtained by their use.

One other drug remains to be mentioned, sulfaguanidine. This particular compound, when given by mouth, is quite soluble in the intestinal content but is absorbed into the blood very slowly. When a patient is given total daily doses of sulfaguanidine up to 0.4 grams per kilo, the blood concentration reaches only from 2 to 5 mg. per cent. The high concentration obtainable in the intestinal tract without a high blood level and toxic symptoms and its effectiveness against bacilli of the dysentery group, have led to its clinical use in bacillary dysentery and then to its employment as a pre-operative measure before a large bowel resection is undertaken. The fecal matter is not made sterile by the use of this drug, but the organisms of the dysentery group are reduced in number and reports from its use preoperatively are rather favorable.

The discovery of sulfanilamide has opened such a wide field for the chemists in the synthesizing of related compounds that the application of these remarkable drugs has only just begun.

Agar and the War

The war has cut off importations of agar-agar, which normally come from Japan. The War Production Board has frozen all stocks of agar in order to protect the requirements for bacteriologic culture medium use of the Army, Navy and civilian hospitals and laboratories.

This W. P. B. control of agar stocks made it necessary for Mead Johnson & Company to discontinue the manufacture of "Pectin-Agar in Dextri-Maltose," a product which has been used by the medical profession for the treatment of diarrhea in infants.

Fortunately, Mead Johnson & Company have another product, Casec, which gives good results for the same purpose. Physicians who are not familiar with Casec are invited to write for samples and descriptive literature.—Adv.

The Differential Diagnosis of Coma and Its Management Neurological Aspects*

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Any condition that affects the brain, either primarily or secondarily, can cause coma. The neurological aspects of this subject are essentially concerned with conditions affecting the brain primarily.

The diagnosis of coma is often difficult, and especially so when no history is available. In making a diagnosis on a comatose patient it is important to do as complete an examination as possible, including routine physical examination, neurological examination, laboratory tests, and x-rays if indicated. In the physical examination important points to look for are bleeding from the ears, other evidence of head injury, discoloration or inflammation in the mouth from poison, breath odor, color, pulse, respiration, and temperature. Neurologically the presence of hemiplegia or hemiparesis, papilledema, stiffness of the neck, pupillary abnormalities, and evidence of hysteria are important. Routine urinalysis and blood count should always be done. If the diagnosis is questionable a spinal puncture is indicated and blood chemistry or examination of stomach contents may also be necessary. X-rays of the skull may give valuable information in head injury and brain tumor.

The following outline lists some of the important causes of coma with their most important diagnostic features and treatment.

I. Trauma to head.

Concussion: Superficial evidence of injury.

Subarachnoid hemorrhage: May have focal signs, blood in spinal fluid, and may have increased intracranial pressure.

Middle meningeal hemorrhage: Coma often develops several hours after injury. Focal signs usually present including enlarged pupil on side of hemorrhage.

Subdural hematoma: Coma develops gradually, any time from a few hours to many months after injury. Spinal fluid often xanthochromic and under increased pressure.

It is well to examine for injury to other parts of the body in head injury cases.

Treatment of head injury may be given along the following lines.

1. Combat shock.
2. Care to scalp wounds and injuries to other parts of the body. Don't irrigate a nose or ear that is draining blood or spinal fluid.
3. Hypertonic solutions, as 50% glucose, sucrose, or sorbitol. These can be given as often as every four hours and in quantities of 50 to 100 cc. The total intake of fluids should be limited to about 1500 cc. daily.
4. Lumbar puncture helps diagnose increased intracranial pressure and may be used to slowly reduce this pressure, although only enough fluid should be removed to drop the pressure to normal or a little below. This seems to be especially helpful where there is a large amount of blood in the fluid.
5. Barbiturates may be given cautiously where necessary and especially if convulsions are present. Morphine should be strictly avoided. Caffeine sodium benzoate 7½ grains by hypo helps reduce intracranial pressure.
6. Surgical treatment is usually indicated only in increased intracranial pressure with localizing signs, or in depressed fractures. Subarachnoid hemorrhage, with or without laceration of the brain, usually can't be benefited much by surgery. Middle meningeal hemorrhage, however, can usually be stopped. In most cases a bone flap is necessary rather than a trephine opening. Subdural hematoma can frequently be evacuated through trephine openings, but these should be made on both sides of the skull and it is often desirable to make two on each side. Subdural hematoma is not infrequently bilateral. Depressed fractures, when severe, or when associated with neurological evidence of pressure on the brain, or when comminuted, should be operated.

II. Electric shock.

Heart and respiration usually arrested. Superficial burns may be present.

Treatment consists of artificial respiration, oxygen, and stimulants.

III. Poisons.

Alcohol: Odor on breath, hyperemic skin, alcohol content of blood over 300 mg. per cent. Always check for associated head injury.

Bromides: If suspected do blood bromide determination.

Barbiturates: Very difficult to diagnose without history. Chemical tests not generally available.

Carbon monoxide: Skin "cherry-red." Odor when cooking gas is the source. Carbon monoxide hemoglobin on spectroscopic tests.

Cyanide: Cyanosis, odor on breath.

There are, of course, many other poisons that can cause coma, but the above are the most common.

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*Read before Nebraska State Annual Assembly, May 6, 1942.

Treatment consists of washing the stomach, picrotoxin, metrazol, other stimulants, sodium chloride (for bromide poisoning), oxygen and carbon dioxide, methylene blue, etc.

IV. Anoxia.

Cyanosis.

Treatment consists in removing the cause and giving oxygen and carbon dioxide.

V. Brain tumor.

Papilledema, localizing signs, convulsions, and x-ray evidence of pressure or calcification. Air encephalogram or electro-encephalogram may be indicated.

Treatment consists of surgery and x-ray therapy.

VI. Cerebrovascular conditions.

Hemorrhage—Deep coma, sudden onset (often with exertion), usually hemiplegia, hypertension, usually elderly individual. When spinal fluid is bloody, stiff neck is usually present.

Thrombosis: Light coma (if any), sudden or fairly sudden onset (often during sleep), frequently hypertension, usually elderly.

Embolism: Usually cardiac in origin, murmur present. Frequently deep coma, sudden onset, hemiplegia, other embolic phenomena often present.

Cavernous sinus thrombosis: Proptosis, dilated veins and cyanosis about forehead and eyelids, fever, source of infection.

Superior longitudinal sinus thrombosis: Swelling and blueness of upper face, weakness and increased reflexes in lower extremities, usually injury to top of head.

The treatment of the cerebrovascular conditions will be discussed by Dr. Edmund Walsh in another paper.

VIII. Epilepsy.

Convulsion precedes coma, usually can be aroused in 15 to 30 minutes, tongue may show injury or scars.

Treatment is not necessary for the coma.

VIII. Infection of the brain or its covering membranes.

Encephalitis: Fever, slight stiffness of neck, scattered neurological signs, spinal fluid has increased cells, normal sugar, and no bacteria.

Abscess: Similar to brain tumor. May have fever, leukocytosis, cells in spinal fluid and source of infection.

Meningitis: Meningococcic, tuberculous, septic, etc. All characterized by fever, stiffness of the neck, and cells in the spinal fluid. Diagnosis largely made by the characteristics of the fluid and the presence of bacteria therein.

Treatment of this group consists of sulfonamides, serum; spinal puncture, and, in abscess, operation.

IX. Hysteria.

Respiration, pulse, and all physical signs normal. Various inconsistencies such as non-relaxation of the eyelids and irregular movements of the eye when it is opened.

Treatment consists of faradic electricity, electric convulsive treatment, or just observation, since the patient will eventually awaken spontaneously in most cases.

* * *

Transcontinental Shopping by Air for Soldiers at Advance Bases

What does the American serviceman stationed in the Southwest Pacific battle zone buy with his money? An answer was had some months ago when Red Cross field directors at Port Darwin, Australia, Port Moresby, New Guinea, and in New Caledonia undertook several transcontinental buying trips by air.

Red Cross Field Director Peter Croes of Port Darwin pioneered the plan when he obtained passage via Army transport plane to fly 1,500 miles to the nearest shopping center. Word got around on the grapevine of the projected tour, and when he took off he had a shopping list four feet long and $2,000 to spend. Prominent on this list were cases of soap, shaving brushes, phonographs and records, lighter fluids and flints, and embroidering needles.

Field Director James Stewart, at Port Moresby, had an equally diversified list. It included 200 harmonicas, 2,000 candles, chewing gum, pipes, knives, thousands of razor blades, barber clippers and shears, bingo games, and horseshoes. He had to compromise on a request for three alarm clocks, as he found only two when he went to buy them.

New Caledonia is a fisherman's paradise, and the list which John Carney, Red Cross field director there, took to town was top-heavy with hand lines, sinkers, feathered lures, and hooks. But he was also bidden to purchase medical books, flat irons, photo supplies, and a pair of cameo earrings for the chaplain's wife.

One of the principal troubles on such a shopping tour, according to Red Cross representatives, is not the great distances, but the fact that so many items are strictly rationed. As a result, Army nurses fared rather badly. Their requests ran to silk stockings, pajamas, and sundry feminine clothing. Without individual ration books these simply were not obtainable.

Medical and Hospital Obstetric and Pediatric Care for Wives and Infants of Men in Military Service*

The Division of Maternal and Child Health, Nebraska State Department of Health, Lincoln, in accordance with the medical policy adopted by the MCH Committee, N. S. M. A., will furnish medical care for families of men in the armed forces insofar as available funds permit, and on the basis below described.

ELIGIBILITY

All expectant mothers and their infants, under one year of age in Nebraska, irrespective of residence, where it is stated that the father is in military service (U. S. Army, Navy, Marine, or Coast Guard), and whose rank is Sergeant or below, are eligible for obstetric and pediatric care, upon recommendation by the physician, whenever such services are not otherwise readily available to the patient. For the expectant mothers, and their infants, under one year of age, where the father has the rank of Staff Sergeant to Second Lieutenant (or comparable rank in Navy, Marine or Coast Guard), care will be authorized upon request of the physician when special circumstances, such as large family, or extra dependents (father, mother and sisters) create definite need. Later, older children may be included in the program when available funds permit. Commissioned officers' families, other than Second Lieutenant, are not included in this plan.

APPLICATIONS FOR AUTHORIZATION

Any applicant for maternity care, or for the pediatric care of her infant child need only be referred to a local physician of her choice, who will then have her sign Part I of the application in his presence, stating name and address of the father.

In all instances where special problems of social adjustment are evident, the physician is requested to refer the case to local welfare agencies, including local County Assistance, for the needed services.

Part II of the application is to be signed by the physician chosen by the applicant, and the completed form then forwarded immediately to the Director, Division of MCH, 1003 State Capitol, Lincoln, Nebraska. Under "Remarks," the physician should fill in what he considers unusual circumstances, or if obstetric or pediatric consultation is necessary. The latter service may be requested by the physician from any consultant who qualifies under "Consultants," keeping in mind that whenever available, physicians having American Board membership, or similar qualifications, are to be chosen.

Consultation is invited in all cases where doubt exists. All cases may have hospitalization up to ten days if recommended by the physician, a longer time being allowed for pathological cases by special permission from the Department of Health at the hospital per diem addition agreed upon in this schedule with the Department of Health.

In normal obstetric cases, at the discretion of the physician, where proper provision is made for home bed-care subsequently, the patient may be returned home on the third or fifth day postpartum by ambulance. Suitability of the available home care must be determined by the local Public Health Nurse where she is available. Lacking this, then the responsibility rests upon the attending physician. The physician must provide full ten days' postpartum care in hospital or home, and in abnormal cases, apply for extension of time for care and hospitalization to the Department of Health. The Director of MCH, after reviewing the blank, will authorize on suitable forms patient and physician, and when specified, the hospital, for the care, and forward necessary medical and hospital blanks for noting service rendered and submitting proper bill of service to the Division of MCH after dismissal from medical care or hospitalization.

The procedure for the application for pediatric care is essentially the same, excepting that it applies to pediatric cases.

EMERGENCY CASES

In cases of emergency pediatric illness or an obsteric case appearing at time of delivery in special instances, a telephone request may be made by the attending physician to Roland H. Loder, M. D., Director, Division of MCH, or Harold S. Morgan, M. D., Chairman of MCH Committee, Nebraska State Medical Association, Lincoln, for immediate authorization. ^ ~~The Division office~~ will then immediately * mail the completed application to Director, Division of MCH, 1003 State Capitol, Lincoln. The Division office will then send out written confirmation of authorization to the patient, physician and hospital.

REFERRAL FROM MILITARY BASE

In certain military base areas families and children of men in the armed forces will be cared for by the medical staff of the base where such services are available. However, whenever a case is referred from the military base, the "Military Referral" form, signed by the Station Hospital Medical Officer should accompany the patient to the physician of choice and then be forwarded with application to the Director, Division of MCH.

CHOOSING THE PHYSICIAN

In rural areas, the patient will have little difficulty in choosing the physician. However, in metropolitan areas, cases not knowing what physician to choose may contact the local Red Cross Home Service Director where an office with trained personnel is established, otherwise, local County Assistance, where she may obtain a list of the local medical men who are willing to participate in the program and make her choice from the list. It is important that the patient have absolutely free choice of her medical attendant and infraction of this rule will place responsibility for the individual case upon the local agency or person not heeding this provision.

* The physician (Correction on p. 419).

STANDARDS OF MEDICAL CARE

Attending physician: (1) must be licensed to practice in Nebraska, and (2) a graduate medical doctor with seven years' experience in general obstetric and pediatric practice, (or) graduate of a Class A medical school and one year's general rotating hospital interneship, including obstetrics and pediatrics. The prenatal care must be of a quality comparable to the standards set up under the following schedule:

COSTS OF MEDICAL CARE

Maternity: Prenatal care — since in certain army or base localities in Nebraska, prenatal care can be arranged for at the base medical clinic or hospital, in such instances no prenatal care fee is allowed. When a prenatal case is cared for by a physician and the minimum care prescribed in the following plan is achieved, a total $10.00 will be allowed.

MINIMUM STANDARDS

a. A minimum of one visit, including complete examination in first trimester, (excepting when reporting is in second or third trimester). The examination blank must be completed carefully by the physician as its required content is reduced to a minimum necessary.

b. Three office prenatal visits during the second trimester.

c. Three office prenatal visits in third trimester. If reporting is in the third trimester . . . . NO FEE WILL BE ALLOWED. However, if reporting is in the second trimester and the remaining minimum prenatal care of total seven office visits is accomplished, the fee will be $10.00.

Prenatal-Delivery-Postpartum Care: When the private physician does the above minimum prenatal care and also delivers the patient and gives ten days' immediate postpartum care (immediate postpartum care includes three home or hospital calls in the first ten days following delivery); the fee will be $35.00.

Delivery care alone and ten days' immediate postpartum, $25.00. (Immediate postpartum includes at least three postpartum calls in the first ten days after delivery).

Pathologic Obstetric Cases. Medical, surgical, obstetric consultation, and dental consultation for emergency dental procedures is invited when recommended by the local physician or where obstetric, surgical, medical or dental complications may occur. However, cases complicated by venereal disease shall be cared for as in the already existing State Department of Health program. In such cases, confer with the Director, Division of Venereal Diseases. Except for unforeseen emergencies, the consultation fee will not be paid without previous direct authorization, which may be telephoned, but which will later be confirmed in writing. A local consultant may be chosen by the attending physician based on the consultant's qualifications listed below, except that where members of the American Board of OB and GYN, or men with similar qualifications are available, they must be chosen as the consultant. For such authorized obstetric consultation, the fee will be $25.00.

For medical or surgical emergency consultation, the prevailing fee will be allowed on authorized consultations. For authorized emergency dental service that becomes urgently necessary and is recommended by the physician, prevailing local dental fees will be allowed.

Operative delivery requiring qualified obstetric consultant, $75.00. No operative fee will be allowed unless competent consultant consideration has been given and operation is recommended and operative procedure in the below named, or similar difficult operations conducted by the obstetrical or surgical consultant:

a. Difficult forceps.

b. Version and extraction.

c. Caesarian section.

d. Craniotomy.

Permission for such consultation is to be granted uopn request of local physician. Whenever possible, such pathologic cases should be referred to the University of Nebraska Hospital by contacting the Department of Obstetrics at the University in Omaha, particularly where local hospital and consultant facilities do not avail the patient of the maximum amount of protection. The University of Nebraska Hospital, on call to the Dean or Superintendent, will admit such patients. The physician originally in charge of the case will be compensated for delivery service if he attended the case during delivery. If extended postpartum care in pathologic or operative cases is required beyond the ten-day period, the physician will be allowed $5.00 per week fee for a minimum of three visits per week during the extended time for which definite justification must be shown on the obstetrical care blank sent to the Department of Health when the case is dismussed from medical care.

PEDIATRIC COSTS

For home or hospital care, the first week for a minimum of three visits, $10.00.

For each succeeding week of illness, $5.00.

No fee in excess of $20.00 will be allowed or is authorized without review of the case and recommendation by a pediatric consultant chosen from the local community on the basis of the "Consultant qualifications" listed below, except that where members of the American Board of Pediatrics or men with similar qualifications are available, they must be chosen as the consultant. If the illness requires more than three weeks' care by a physician, with hospitalization as well, upon the consultant's recommendation, the case may be retained at the local hospital or be referred to the University of Nebraska hospital.

CONSULTANTS

W. E. Brown, M. D., Obstetrician, and J. L. Gedgoud, M. D., Pediatrician, University of Nebraska College of Medicine, Omaha, are available for consultation in problem cases and when the case is not more than 100 miles distant from Omaha. In case they are not available, a consultant chosen by the attending physician in accordance with the qualifications specified below may be utilized. The following qualifications are required of generally available local consultants in their respective field, except that where members of the American Boards in their respective fields, or men with similar qualifications are available, they must always be chosen as consultant in preference to a "general" local consultant, the latter having the minimum qualifications listed herewith:

1. Graduate of Class A medical school.
2. One years general rotating hospital interneship.
3. Special training in obstetrics or pediatrics, or five years' experience in practice limited primarily to obstetrics and/or pediatrics.

TRAVEL EXPENSE

Travel expense will be allowed at 25 cents per mile for local physicians up to twenty miles distance to the patient, i. e., 25 cents per mile for a total forty miles, or limit of $10.00. Thereafter, mileage in excess of this would be paid at 4 cents per mile according to state policy. For consultants, travel will be allowed at 4 cents per mile by auto or actual expenditure for bus or train travel according to state travel policy.

MEDICAL FORMS

All medical forms must be completed by the physician and mailed to Director, Division of MCH, Lincoln, in order that proper compensation may be allowed.

STANDARDS OF HOSPITAL CARE

In accordance with the MCH plan, hospitals will be accepted, which are (1) approved by American College of Surgeons, or (2) approved by the State Health Agency in accordance with Nebraska Rules and Regulations of maternity homes and lying-in hospitals, with fulfillment of the following qualifications:

1. Medical doctor on the staff.
2. Registered nurse in attendance for obstetric and/or pediatric cases in the hospital.
3. Adequate delivery facilities.
4. Emergency facilities for unusual obstetric cases; at least a supply of blood plasma, and if possible, facilities for giving transfusions of whole blood.
5. Provisions for isolation.
6. Provision for proper care of newborn baby.

In the case of pediatric hospital care, they must have in addition:

1. Adequate facilities for pediatric care; otherwise, referral to a hospital with adequate facilities.
2. An M. D. in attendance on staff who is a conversant with pediatric problems.

COSTS OF HOSPITAL CARE

The State Department of Health has investigated hospital charges in Nebraska and finds an approximate average of $45.00 for ten days' complete hospital delivery care and somewhat varied charges for five-day and three-day complete hospital care. The allowances below are the charges which will be paid, based on these averages:

Ten-day hospitalization is allowed for maternity cases, except that in special complicated cases, an extension may be allowed. Where proper provision is made for ambulance return home, and proper home and follow-up care, normal obstetric cases may be allowed to go home on the third or fifth days postpartum.

Ambulance service for transporting any case to or from the hospitals will be allowed at the rates agreed upon with the Nebraska Funeral Directors Association when the service is recommended by the physician and has previously been applied for by the physician through the Division of MCH.

OBSTETRIC-DELIVERY CASE

a. Complete, including delivery room, nursing care, board and room, 10 days, $45.00.

b. Complete as above, 5 days, $31.50.

c. Complete as above, 3 days, $23.50.

Pathologic obstetric cases requiring longer hospitalization will be acceptable above the ten-day period at a per diem:

a. If both mother and baby remain, per diem, $4.50.

b. If mother alone remains, per diem, $3.50.

c. If baby alone remains, per diem, $1.50.

Pediatric cases, including ward, nursing care, board and room at a per diem:

a. A child under 12 years of age, per diem, $2.00.

b. A child from 12 to 14 years of age, per diem, $2.50.

It is understood payment will not be authorized for longer than ten days' care without first receiving permission from the Division of Maternal and Child Health, 1003 State Capitol, Lincoln. It is understood in all cases authorized on proper forms from the Department of Health, the costs will be paid at the rates above by voucher request from the Division of MCH through the State Treasury. This is a temporary arrangement for payment of hospital care in the immediate present emergency. However, beginning July 1, 1943, participation of any hospital continuing in this program will be dependent upon that hospital filing with the Department of Health a statement of a per diem operating cost estimate for the immediate previous fiscal twelve-month period on forms available from the Division of MCH.

PUBLIC HEALTH NURSING SERVICE

Health supervision in the home by Public Health Nurses is suggested for the families of service men.

List of the Health Units and Nursing Associations is attached.

It is suggested that the referral be made on the enclosed blank immediately when the case comes to the attention of the physician and again when dismissed from the hospital. The State Department of Health will send out a confirmation referral for Public Health Nursing services in all cases where Public Health Nurse or organized Health Unit activities exist.

LIST OF AREAS WHERE PUBLIC HEALTH NURSING SERVICES ARE AVAILABLE

Unit No. 1, Gering, Nebraska, W. E. Holmes, M. D. (Includes Banner, Box Butte, Cheyenne, Morrill and Scotts Bluff counties).

Hall-Adams, Grand Island, Nebr., F. P. Bestgen, M. D.

Dodge-Saunders, Wahoo, Nebraska, G. L. Endres, M. D.

Cass-Sarpy, Bellevue, Nebraska, E. J. Tierney, M. D.

Omaha-Douglas Co. Unit, Omaha, Nebraska, S. L. Pearlman, M. D. (Referrals to be sent to 301 City Hall, Omaha, Nebraska).

South Sheridan County, Bingham, Nebraska. No medical director. (Public Health Nurse covers South Sheridan, North Garden and West Grant).

Dundy County, Benkelman, Nebraska. No medical director.

Burt County, Tekemah, Nebraska. No medical director. (Nurse will be located in this area in the near future).

Lincoln, Nebraska, 226 South 10th St. No medical director. (Lincoln and Lancaster Public Health Nursing Association).

Buffalo County, Kearney, Nebraska. No medical director. (No Health Unit—Nurse in Assistance office).

Washington County, Blair, Nebraska. No medical director. (No Health Unit—Nurse in Assistance Office).

* * *

Importance of General Practitioner

The general practitioner is again taking his rightful place in the practice of medicine—and with a background of study and training that justifies the highest confidence in his ability, John Joseph Nutt, M. D., New York, declares in Hygeia, The Health Magazine for November, asserting that "If specialists would accept no patients except those referred by family physicians it would benefit the patient, the family physician and the specialist.

"The patient would, of necessity, have a physician who would be friend and adviser in all things pertaining to health. The prevention of illness has become a large part of the practice of medicine, and surely this is work for the family physician, who knows his patient from top to toe. He also should be the judge of the good or evil of treatments, drugs, foods, exercise and climates . . . No matter where he lives, the most recent advances in science are available to the family doctor through medical journals, circulating medical libraries and medical societies. By consulting him in small matters his patients may often avoid serious consequences . . . The specialist would not be called on to treat conditions which the family physician can treat exactly as well; he would be consulted only for those conditions which come within his special field. The final result would be the thinning out of the ranks of the specialists—only the really fit surviving—and the return of the family physician to his own . . ."

Tyrothricin in Local Infections

Tyrothricin, a bactericidal substance recently isolated from a soil bacterium, applied to ulcers resulted in sterilization and healing if the local infection was caused by Streptococcus haemolyticus, Staphylococcus aureus or Streptococcus faecalis and encouraging results were obtained when it was applied to mastoid cavities following mastoid operations, Charles H. Rammelkamp, M. D., Boston, reports in the current issue of War Medicine.

Dr. Rammelkamp's findings are based on the use of the substance in the treatment of 58 localized infections, most of them located on the arms or legs of patients, and its application at the time of operation to 15 mastoid cavities infected with hemolytic streptococci.

"Early in the present studies," Dr. Rammelkamp says, "it was noted that in an infection associated with a mixed flora, that is, both with gram-negative and with gram-positive organisms, it was impossible to rid a lesion of the gram-positive component, even though large amounts of the bactericidal substance were applied. . . "

He says that the results obtained in the mastoid group justify further trial of the substance in the treatment of mastoiditis following operation.

"The value of tyrothricin in the treatment of other forms of infection has not been established," Dr. Rammelkamp says. "Superficial streptococcic infections of wounds, burns or skin should respond to the local application of the bactericidal substance; staphylococcic infections are likely to be much more resistant . . ."

He says that inasmuch as gramicidin, a substance obtained from tyrothricin, has been shown to be less toxic and at the same time more potent against gram-positive organisms, "it appears likely that this substance may prove more useful in the treatment of certain localized infections."

Statement Issued on the Recruitment of Physicians for the Army

In an editorial in its October 10 issue The Journal of the American Medical Association advises physicians that:

"Under Medicine and the War in this issue of The Journal appears a statement authorized by the Office of the Surgeon General relative to the recruitment of physicians for the Medical Department of the Army. The points made in that statement may be succinctly stated as follows:

"1. Doctors who volunteered in 1940 and early in 1941 must be promoted, so that doctors who volunteer now should not expect initial appointments in the higher grades.

"2. Active recruitment must continue to keep pace with the needs of the armed forces. Doctors declared available by the Procurement and Assignment Service are now being directly recruited by the Medical Corps.

"3. Young physicians are most needed. In many places they seem to be reluctant to enroll. The Surgeon General requests older physicians to urge enrolment of these younger men.

"4. The official way to volunteer is application on the regular War Department forms. No other method of volunteering is official.

"5 Every effort is being made to assign men with special training to the work for which they are best fitted.

"6. Read particularly the five paragraphs under the heading 'Some Don'ts.' Cooperation will aid efficiency necessary to win the war."

Control of Dental Caries

J. R. THOMPSON, D. D. S., M. S. P. H.
Director Division Dental Hygiene Nebraska
State Department of Health

One year ago, the Nebraska State Department of Health, through its Division of Dental Hygiene and its Public Health Laboratory, instituted a program to test the saliva of persons who are unusually susceptible to dental caries and to make dietary suggestions for its control.

Extensive research in various institutions, more especially at the University of Michigan, College of Dentistry and the George William Hooper Foundation Medical Center, San Francisco, has produced a widespread acceptance of the theory that a close correlation exists between the number of lactobacilli in the saliva and the degree of dental caries activity in the mouth. Further, that these organisms can be reduced and dental caries arrested by the judicious restriction of carbohydrates in the diet.

Since the carbohydrates intake is the only dietary factor thus far proven to be related to caries activity, it is necessary to reduce this food element temporarily but at the same time, a diet must be provided for the patient that will insure normal growth and development and the maintenance of good health.

Before dietary suggestions for the control of dental caries can be made, it is necessary to estimate the number of lactobacillus present in the mouth. The patient is supplied with containers and instructions for collection of at least two specimens of saliva, taken on consecutive days. This is obtained by chewing paraffin and expectorating the saliva thus stimulated into a sterile bottle.

Specimens are mailed directly to the laboratory. Here 1 cc. of saliva is diluted with 4 cc. of 1% glucose infusion broth. 0.1 cc. of that mixture is placed on acid tomato agar pH 5. incubated four days and lactobacillus counted. When the count is determined, a diagnosis of dental caries activity is made and dietary suggestions offered.

It has been found that when the lactobacillus counts are constantly negative, dental caries is not active; when sporadic (from negative to low) dental caries is not active; when low and constant, moderately active caries result; when constantly high, very active caries is or will be present.

In the majority of cases, the elimination of lactobacillus can be accomplished by the moderate reduction of carbohydrates, through the omission, usually, of all forms of confections (such as ice cream, candy, chewing gum, soft drinks, and all artificially sweetened foods). At the close of a two weeks period, on a diet thus restricted, the lactobacillus count of the saliva is lowered noticeably in the greater per cent of the cases.

In a few cases of extremely high lactobacillus counts, that do not respond to the restricted diet as described, it is also necessary to reduce the starch intake as well. Such cases require the advice and careful direction of physicians who have a thorough knowledge of dietetics, as serious disturbances may arise if attention is not given to caloric requirements of growing children.

It is possible to plan an adequate diet that is low in sugar and starch and will, when adapted to the nutritional needs of the patient, reduce the lactobacillus count to negative or very low. Thus, rampant caries can be checked or so reduced that the dentist can control dental decay by simple operative methods.

At the present time a study of the relationship of lactobacillus acidophilus to dental caries is in progress at Boys Town, Nebraska, where approximately three hundred fifty (350) boys reside, ages 11 to 18 years. There is a well-equipped infirmary for medical and dental care with nurses in constant attendance and with a physician and dentist available for necessary care. Father Flanagan, founder and director of Boys Town, gave his approval of the study and his assurance of complete cooperation at its beginning.

Two specimens of saliva from each of two hundred sixty (260) boys were examined. One hundred twenty (120) boys with the highest lactobacillus counts, ranging from an average of three thousand (3,000) to seven hundred thousand (700,000) per cc. of saliva were selected for special study.

Dental examinations were made by two dentists using mouth mirrors and sharp explorers, each recording all cavities, fillings, and missing teeth so that a double check might be obtained. In addition, bitewing x-rays were taken to locate small interproximal cavities and incipient caries, that are often overlooked in exploratory examinations. The weight of each boy was determined and recorded.

Sixty boys, who volunteered to serve for the purpose of research, eat in a separate dining room. Sugar in any form is eliminated from the food and drink served to them. Sixty boys, representing the control group, are eating in the general dining room with no special diet.

Single specimens of saliva are collected and examined from each of the boys once a month and the lactobacillus count is recorded. At the end of four (4) months, 50 boys remain in each group. In the "sugar free" diet group, 29 boys show negative lactobacillus counts; 6 boys show counts under 450; 14 show lactobacillus counts materially reduced and low enough to indicate only moderately active caries; 1 shows an increase over the initial count.

At the end of twelve (12) months, dental examinations will again be made and the dental findings compared in the two groups.

* * *

Civilians in Target Areas of Country Should Carry Identification Tags

"To facilitate identification, each civilian in target areas of the country should be encouraged to carry an identification bracelet or necklace or metal identification pocket piece," The Journal of the American Medical Association advises in its October 17 issue in a condensation of Bulletin No. 5 on Emergency Mortuary Services, to be issued by the Medical Division of the United States Office of Civilian Defense. It is pointed out that in some air raids 40 per cent of the casualties may be fatal and that although the wounded require first attention, the dead should also be cared for promptly and inconspicuously.

The staff of the emergency mortuary service, according to the bulletin as condensed in The Journal, should include a physician to confirm deaths and a coroner or other medical examiner's representative who has authority to sign death certificates and order disposal of unidentified bodies. Volunteer members of an emergency mortuary organization are to enroll with the Volunteer Civilian Defense Office and are entitled to wear the armband and insignia of the Emergency Medical Service, of which the Mortuary Service is a part.

Among the other points brought out in the condensation by The Journal is that it is important that the identification tag on gas contaminated bodies be distinctly marked "gas case" in order that persons handling them will be warned to give them special treatment. Such bodies should be handled only by workers wearing protective clothing and masks and these workers must subsequently go through the cleansing prescribed for decontamination squad members.

Diseases Caused by a Fungus May be Amenable to Sulfonamide Treatment

Another large and serious group of diseases, the mycoses, may be amenable to sulfonamide treatment, Mark Marshall, M. D., and R. Wallace Teed, M. D., Ann Arbor, Mich., say in The Journal of the American Medical Association for October 17 in a preliminary report on the recovery of a child from Torula histolytica meningoencephalitis. Sulfadiazine was the treatment agent.

"Human infection with the various pathogenic yeasts," they explain, "is not of frequent occurrence. This is particularly true of torulosis, which must be classed as an extremely rare disease. When it is considered that the torulae are found on normal skin, in the human throat and gastrointestinal tract, in milk, on various plants and in the bodies of many insects . . . it is surprising that infection does not occur more often. When it has occurred, however, it has usually been fatal. . ."

They say that "The absence of torulae in the spinal fluid (of the girl whose case they report) since about February 1 (sulfadiazine treatment was started January 13) along with clinical recovery, leads us to the hope that the child may be completely cured. . . "

In addition to their own experience the two physicians cite several reports by others of "evidence that mycotic infections as a class may be treated successfully by the sulfonamides . . . It is therefore evident that another large and serious group of diseases, the mycoses, may be amenable to sulfonamide therapy. One has a distinct feeling that the high mortality of the past will give way to a much better experience in the near future."

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

THE STAFF-ROOM STRATEGIST

As an analogue to the typewriter (ne armchair) general this Journal nominates a new species of military specialist—the staff-room strategist. Always equipped with unusual information, the modest generalissimo, contrary to the new recognized principle of warfare through surprise blitz attack, greets his victim with leisurely pleasantry. When the proper rapport has been reached the strategist begins to pour out information, knowledge and wisdom. "In Washington there is nothing but a political mess with dictatorship as the ultimate goal. Our boys in the armed forces are at the mercy of senile and incompetent brass hats, thanks to whom the war is already lost. The people are being fooled. It takes the Navy two months to announce the sinking of a ship. The Procurement and Assignment Service, for an illustration,—a complete failure. They even pulled out Seeley."

If all victims of these harangues were conscious of the true nature of the "strategist" there would be little justification for editorial comment. No one who values freedom would even for a moment interfere with a fellow's liberty to give vent to his views, whatever they be. Too often, however, the listener accepts these tales and comments as facts to be repeated at the next stop.

It is not within the province of this publication to enter into political or military discussions. However, rumor about the Procurement and Assignment Service cannot be accepted without challenge. The Journal considers it its duty to recall to the members of the medical profession that this Service was organized at the recommendation, not of politicians and brass hats, but of organized medicine. It is our baby. Let us not be intolerant of its behavior reactions in response to the complicated and unprecedented demands made upon it. Far from being a complete failure, it is working smoothly in the maze and confusion of a world in utter chaos. It is supplying medical personnel for our armed forces, and at the same time preventing a breakdown of medical services in the communities.

(Continued on page 396)

DEXTER D. KING

A Message from Your President

There is one very important decision that the Association will have to make in the next few months, and that is whether we can hold our Annual Assembly next May as usual.

In the October issue of the Journal I tried to explain the duties and function of the Program Committee and it will be remembered the Annual Assembly is entirely in the hands of this Committee.

Recently this committee held its first conference in regard to the Assembly and a number of pertinent questions were discussed relative to the possibility of holding the meeting. In the first place: What would be the status of transportation at that time; what will be the wartime demands on the profession by next May; what assurance is there that speakers could even be obtained; could we obtain enough exhibits to be worthwhile, a question that is very doubtful; and what would be the attitude of governmental agencies regarding conventions, etc.? After due consideration it was decided to postpone any action until after the first of the year when the indications might be more clear.

It is the desire of the Nebraska State Medical Association to co-operate in every way with the government in the war program, and we may properly follow the action of the A. M. A. and call off the scientific part of our annual assembly. In that case only the House of Delegates, the Council and the officials of the Association would be called into session to deal with the affairs of the Association.

There are four Clinical Societies holding meetings in the middle west during October, among which is the Omaha Mid-West Clinical Society. These assemblies have had their programs arranged far in advance and by the time this is published they will have completed the meetings. It is my understanding that they are making no attempt to arrange programs for next year.

I do not know that an annual session of our Association has ever been cancelled, but even so, we are facing a situation that demands extreme measures and many sacrifices, and this may be one of them.

D. D. King, M. D.

A recent memorandum by the War Manpower Commission states: "The procurement programs of the Army and Navy seem to be progressing satisfactorily since the majority of the states have filled, or nearly filled, their quotas for the year."

Colonel Seeley's transfer was an army routine which has no bearing on the status of the Service. Dr. Seeley was loaned by the Surgeon General's office to Procurement and Assignment Service at the time of its inception a little over a year ago, with no promise of permanency of tenure. When his job was completed in the organization of Procurement and Assignment Service he was recalled and assigned to active military duty.

The fact that a quota set June 15th for 22,000 physicians by December 31, 1942, was practically filled October 1st should answer any question relative to the failure of Procurement and Assignment Service or any other responsibility of the medical profession. The Service will continue as long as the need for it exists. At present there is no reason or indication of its impending dissolution.

DIPHTHERIA IN NEBRASKA

According to a release by the State Health Department thus far this year, 91 cases of diphtheria were reported in the state. This figure is not imposing by comparison with the incidence of the disease a quarter of a century ago. In the light of its present status, however, the number is anything but flattering to layman and physician alike. Ninety-one individuals suffered from a disease which is preventable. How many of these died or were left with permanent cardiac or renal defects is not stated, but it must be assumed that all did not escape with impunity. Nor is it reasonable to accept the report as the true number of cases in Nebraska in view of a delinquency of the 26 counties quoted in the release.

In an effort to eradicate diphtheria, Acting Director Petty suggests continued immunization programs on a large scale. "Much has been done," he states, but he is justly confident that the results can stand improvement. It would be interesting to know if any of the individuals who contracted diphtheria had had toxoid prior to exposure. It must be emphasized that the administration of the toxoid is not synonomous with immunity. Large scale "immunizations" of children will be successful only when such immunizations will be estabished by actual tests for immunity. The Schick test, though not the most reliable for this purpose, is yet the most practicable and should be an integral part of the program.

PROGRESS IN VASCULAR DISEASE

A recent editorial in Hygeia divides the biblical legend "the years of man are three score and ten" into three cycles: Twenty years of growth, thirty years of maturity, and twenty years of gradual breakdown. The vast majority of deaths during the last cycle of life occur as a result of degenerative changes in the vascular system. And since the span of life is constantly increasing there is a naturally corresponding increase in our interest in the nature of these pathologic states. That this interest is not limited to academic speculations but rather expresses itself in serious laboratory and clinical investigation is evidenced by the fact that in a recent review of the literature on the subject over a one-year period, Scupham* and his associates studied 178 contributions to this subject.

The problem is not new, to be sure, and no dramatic results are tabulated. In view of present world conditions, too, the prospects for rapid and immediate advancement in this field are not particularly encouraging. Nevertheless indications exist that these degenerative changes are coming closer to our understanding. The first sign of fog clearance came about a year ago when the Nomenclature Committee for the Study of the Peripheral Circulation of the American Heart Association published a list of preferred and universal terms for designating diseases and abnormalities of the blood and lymph vessels of the extremities. While this project in itself is of no striking and immediate consequence, it will aid materially in the evaluation of diagnostic and therapeutic procedure now in vogue, and of interpretations and methods to be proposed in the future.

*Arch. Int. Med., vol. 70, p. 444, Sept. 1942.

A decline of 206 in the number of Nebraska deaths during the first six months this year, compared with the same period in 1941, was announced October 17 by Dr. W. S. Petty, acting state health director.

Deaths totaled 6,200. Dr. Petty said all causes showed decreases.

He speculated it might possibly be the result of an improved health program followed since the start of the war.

ANNOUNCEMENTS

The next medical examination will be given November 23-24-25, 1942, State Capital Building, Lincoln, Nebraska. All applications for this examination must be filed with the Bureau of Examining Boards, Room 1009, State Capital Building, Lincoln, Nebraska, at least fifteen days prior to said date.

Examinations American Board of Obstetrics and Gynecology

The next written examination and review of case histories (Part I) for all candidates will be held in various cities of the United States and Canada on Saturday, February 13, 1943, at 2:00 P.M.

Arrangements will be made so far as possible for candidates in military service to take the Part I examination (written paper and submission of case records) at their places of duty, the written examination to be proctored by the commanding Officer (medical) or some responsible person designated by him. Material for the written examination will be sent to the proctor several weeks in advance of the examination date. Case records may be submitted in advance of the above date, only by candidates in Service, by forwarding these to the office of the Board Secretary by the candidate upon entering military service, or in the event of assignment to foreign duty. All other candidates should present their case records to the examiner at the time and place of taking the written examination.

The Office of the Surgeon-General (U. S. Army) has issued instructions that men in Service, eligible for Board examinations, be encouraged to apply and that they may be ordered to Detached Duty for the purpose of taking these examinations whenever possible. The Office of the Surgeon-General of the U. S. Navy presumably takes a similar attitude on this matter.

All candidates will be required to take both the Part I examination, and the Part II examination (oral-clinical and pathology examination). Candidates who successfully complete the Part I examination proceed automatically to the Part II examination to be held later in the year.

"The Part II examination for this year will be held at Pittsburgh, Pennsylvania, beginning Wednesday, May 19, and closing Tuesday, May 25, 1943."

If a candidate in Service finds it impossible to proceed with the examinations of the Board, deferment without time penalty will be granted under a waiver of our published regulations covering civilian candidates.

Applications for this year's examinations must be in the office of the Secretary not later than November 16, 1942.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

A New Journal

The American Gastroenterological Association on January 1, 1943, will publish the first issue of a new Journal to be called, Gastroenterology. The new Journal will be owned by the Association, will be the official publication of the Association, and will be published by Williams and Wilkins Company. It will appear monthly, and the subscription price will be $6.00 per year.

Dr. W. C. Alvarez will be the Editor (after June, 1943) and Dr. A. C. Ivy will be the Assistant Editor. The Editorial Board will consist of Doctors A. H. Aaron (Buffalo), J. A. Bargen (Rochester), H. L. Bockus (Philadelphia), W. C. Boeck (Los Angeles), B. B. Crohn (New York), R. Elman (St. Louis), F. Hollander (New York), Sara Jordan (Boston), J. L. Kantor (New York), B. R. Kirklin (Rochester), P. Klemperer (New York), F. H. Lahey (Boston), F. C. Mann (Rochester), H. J. Moersch (Rochester), V. C. Myers (Cleveland), W. L. Palmer (Chicago), J. M. Ruffin (Durham), R. Schindler (Chicago), and D. L. Wilbur (San Francisco).

Letters regarding subscriptions and business matters should be addressed to Mr. R. S. Gill, Williams and Wilkins Company, Baltimore, Maryland.

NEWS and VIEWS

Dr. Claude Selby of North Platte, former President of the Nebraska State Medical Association is the newly appointed Director of Health of the Nebraska State Health Department.

Dr. Walter Judd, a Rising City product, and a graduate of the 1923 class of the University of Nebraska Medical College is a candidate for Congress in the Minneapolis district of Minnesota.

New blood banks have been established at Bishop Clarkson and Saint Catherine's Hospitals, Omaha, adding considerably to the community's storage space for blood and blood plasma for use in time of emergency.

Capacity of the new Clarkson Hospital Bank is 200 units, while the St. Catherine's bank contains 36 units. With the St. Joseph's Hospital Bank, the total storage capacity for the community now totals 611 units.

Nine-tenths of the youths, ages 16-24, in low-income families are in need of medical or dental care, according to a recent report of the U. S. Public Health Service and the National Youth Administration. Although two-thirds of these young people are physically fit for any kind of work, one-third of them are limited by health defects in the work they can do.

"These findings are based upon some 150,000 complete physical examinations of out-of-school youth on work programs of the National Youth Administration. This group of young people is believed to be representative of approximately 12 million American youths from low-income families.

"As compared with other groups of the same ages, the general health of N. Y. A. youth is much the same as that of all American youth, but N. Y. A. young people have received less corrective attention for remediable defects, such as decayed teeth, than have other groups.

"The study, made public by Surgeon General Thomas Parran of the U. S. Public Health Service and Administrator Aubrey Williams of the National Youth Administration, provides important data with respect to the lack of adequate medical and dental care in low-income groups and to the problem of rehabilitating the physically handicapped for employment in war production.

"The physical examinations were made by local physicians and dentists and included an evaluation of each youth's employability in terms of his health status.

"According to the recommendations of the examining physicians and dentists, about 185 health defects in each 100 youths require medical or dental attention.

"Untreated dental caries was recorded for 83 percent of the individuals who were examined by a dentist. The average number of untreated defective teeth per 100 youths was 472, or about 5 defective teeth per person. Over one-third of the youth had defective vision, but most of the visual defects were slight. More than one in 10 were 15 percent or more below the average weight for their age, sex, and height; over 5 percent weighed 25 percent or more above average.

"Negro youth were found to have a lower rate of total carious teeth. Youth in certain geographic regions, notably the Rocky Mountain and West South Central census regions, had significantly higher rates of dental caries. Prevalence rates of defective vision were higher for females than for males, and higher for whites than for Negroes.

"The 150,000 physical examinations included blood serology, urinalysis, stethoscopic examination, dental examination, Snellen chart reading, ear, nose and throat examination, and in some cases, chest X-rays and fecal examinations."

Supplemental Staffs For Emergency Base Hospitals

Selected hospitals and medical schools in the coastal States have been invited by the Surgeon General of the U. S. Public Health Service to organize affiliated staff units which will be ready to serve when needed to supplement the medical staffs of Emergency Base Hospitals, now being designated by the Medical Division of the Office of Civilian Defense. These units resemble the affiliated hospital units of the Army except that they are smaller in size. They are being organized in order to assure suitable status and remuneration for physicians who may be called upon in the event of an enemy attack in their locality to care for casualties and other patients who have been evacuated to the interior of their region.

The designation of Emergency Base Hospitals and the formation of affiliated units are part of a joint hospital program of the Medical Division of the Office of Civilian Defense and the U. S. Public Health Service. The program is authorized under an agreement concluded March 2, 1942, between the Federal Security Administrator and the Director of the Office of Civilian Defense.

Physicians in the affiliated units will be commissioned in the inactive Reserve Corps of the Public Health Service. Unless an urgent need for their services should arise, they will remain on an inactive status for the duration of the war. They will be called to active service only if hospitals in their regions must be evacuated and the civilian populations must be moved because of military necessity. Activation of the units will take place by order of the Surgeon General at the request of the Chief Medical Officer of the Office of Civilian Defense on advice of the Regional Medical Officer and the State Chief of Emergency Medical Service in charge of the affected areas.

The commissions will be in grades ranging from Passed Assistant Surgeon to Senior Surgeon, and when units are activated, these officers will have the rank, pay and allowances equivalent to those of officers in the armed forces. The accompanying table of organization shows the composition of the unit.

Institutions invited to form units are asked to nominate an outstanding physician or surgeon as Unit Director, who, if he meets the physical and other requirements, will be commissioned Senior Surgeon in the Public Health Service Reserve. The Unit Director will then nominate the remainder of the staff and appointments will be made after clearance through the State Chief of Emergency Medical Service. Nominations are to be limited to male physicians over 45 years of age, to those under that age who have physical disabilities which disqualify them for military service but which do not interfere with their professional activities, and to women physicians.

In order to avoid serious depletion of the professional staffs in the medical schools and hospitals of the target areas, the Surgeon General has recommended that medical shcools draw their affiliated units in part from associated hospitals and that nonteaching hospitals invite physicians from other qualified hospital staffs to collaborate.

Dr. Baehr Visits England

Dr. George Baehr, Chief Medical Officer, Office of Civilian Defense, has gone to England to study Britain's Emergency Medical Service and confer with medical leaders. Dr. Baehr will remain abroad for several weeks.

WOMAN'S AUXILIARY

President—Mrs. W. W. Carveth
3345 Grimsley Lane, Lincoln, Nebr.
President-elect—Mrs. A. L. Miller
Kimball, Nebr.
First Vice-President—Mrs. Herbert Davis
112 South Elmwood Road, Omaha, Nebr.
Second Vice-President—Mrs. Charles Arnold
2480 Lake, Lincoln, Nebr.
Secretary—Mrs. O. A. Reinhard
2833 Sheridan, Lincoln. Nebr.
Treasurer—Mrs. K. F. McDermott
518 South Clay, Grand Island, Nebr.
Historian—Mrs. Floyd Rogers
3015 Stratford, Lincoln, Nebr.

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. Chas. P. Baker is State Chairman for the Bulletin.

The Fall Board meeting of the Auxiliary was held September 25, 1942, at 10:30 a. m., at the University Club in Lincoln, Mrs. W. W. Carveth presiding. Following reports of committee chairmen, plans for the coming year were discussed.

"Credo of the Doctor's Wife in Wartime" was the subject of a talk by Mrs. Carveth at the Membership Tea, Wednesday, October 7, of the Woman's Auxiliary to the Omaha-Douglas County Medical Society. Seventy-five members were present at the tea which followed the Board meeting at the home of Mrs. Edwin Davis. This was the first meeting of the year with the following new officers in charge:

Mrs. Glenn Whitcomb, president; Mrs. Warran Thompson, honorary president; Mrs. Howard Morrison, president-elect; Mrs. Oliver Nickum, vice president; Mrs. Alexander Young, secretary; Mrs. Maurice Grier, treasurer.

Directors are: Mrs. J. Harry Murphy, Mrs. E. M. Walsh, Mrs. Charles Baker, Mrs. A. D. Cloyd, Jr.

Advisory Committee: Mrs. L. A. DeLanney, Mrs. Herman Johnson.

Mrs. Glenn Whitcomb, president, announced that the club's program will center around local health problems made especially acute by defense activities.

Mrs. Olin Cameron, membership chairman, was assisted by her committee, and the tea was in charge of Mrs. W. H. Taylor and her courtesy committee.

MARRIAGES

Dr. Donald F. Bellamy formerly of Omaha, to Miss Marguerite Young of Lincoln, in Oakland, Calif., September 26, 1942.

BIRTHS

To Dr. and Mrs. David Findley of Omaha, a daughter, October 16, 1942.

OUR MEMBERS IN THE ARMED FORCES

The Journal is desirious of supplying the latest information about the members of the Nebraska State Medical Association in the Armed Forces. Data will be brought up to date as information is received. Readers are urged to cooperate in this effort. Drop a postcard to the Editor, 220 Medical Arts Building, Omaha.

Major L. N. Kunkel of Union is stationed in California.

Lieutenant R. Brown of Beatrice is stationed at Salt Lake City.

Captain H. D. Meyers of Howells is at Jefferson Barracks, Missouri.

Lieutenant Richard Penry of Belgrade is at Camp Campbell, Kentucky.

Captain Isaiah Lukens of Tekamah is at Carlisle Barracks, Pennsylvania.

Captain S. H. Cook of Randolph is at Carlisle Barracks, Pennsylvania.

Lieutenant Kenneth R. Drewelow of Stanton is at Geiger Field, Washington.

Lieutenant Morris Sonderegger of Lincoln has been called for overseas duty.

Captain Kenneth Prescott of Long Pine is at the Station Hospital, Camp Blanding, Fla.

Lieutenant E. C. Magaret of Papillion has been assigned to duty in San Antonio, Texas.

Lieutenant N. C. Scott of Omaha reported for duty at Fort Sam Houston, Texas early in October.

Dr. James Embick, son of Dr. P. J. Embick of Laurel is a Lieutenant Junior Grade in the Navy.

Captain Max Gentry of Gering is stationed at the Station Hospital in Bolling Field, Washington, D. C.

Captain R. D. Wyrens of Omaha has been assigned to permanent duty at Fitzsimmons in Denver.

Lieutenant Commander D. J. O'Brien of Omaha is stationed at the Base Hospital in San Diego, California.

Dr. Charles H. Arnold of Lincoln, commissioned Major in the Army, is stationed at Fitzsimmons Hospital in Denver.

Dr. W. J. Fitzpatrick of North Platte has been commissioned Lieutenant Senior Grade in the United States Navy in September.

Dr. Clarence N. Sorenson of Alliance is a Lieutenant in Salt Lake City. Also in Salt Lake City are Captains Vern J. Reynolds, and Robert J. Stein of Lincoln.

Lieutenant Commander D. B. Wengert of St. Paul was on 48 hour leave recently and was expected to depart for overseas duty. Commander Wengert is serving with the United States Marines.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

Regular Meeting

Tuesday, September 22, 1942

The regular meeting of the **Omaha-Douglas County Medical Society** was held on Tuesday, September 22, 1942, Medical Arts Auditorium, and called to order by President Thompson at 8 p. m.

The Secretary read the minutes of the Council Meeting of July 10 and the Council meeting of September 22, which were approved as read.

The matter of Red Cross material to be handled through the Executive Office as indicated in the Council minutes of September 22, was further explained by the Secretary. The Red Cross Disaster Arm bands originally issued have been recalled and are to be replaced by new Disaster Arm Bands, cost of which will be 15c. All physicians who are members of Field Emergency Squads for Civilian Defense should also have the Civilian Defense Arm Band and the Civilian Defense Car Insignia, at 25c each. These items may all be obtained at the Executive Office, 220 Medical Arts Bldg.

The President requested those present to rise rise while Dr. J. D. McCarthy read the Resolution in memory of Dr. William P. Wherry who died June 13, 1942.

Announcement was made by the President that for the duration of the war, in accordance with resolution passed by the Council and approved by the Society as a whole, the **Omaha-Douglas County Medical Society** will hold monthly meetings instead of semi-monthly as heretofore; that is, the second Tuesday of each month except on special call. Attention was also called to the meeting of the Omaha Mid-West Clinical Society, October 26, 27, 28, 29, 30, 1942, Paxton Hotel, with Thursday night, October 29, being Omaha-Douglas County Medical Society night.

The meeting was then turned over by President Thompson to Dr. Chas. P. Baker, pathologist at Methodist Hospital, chairman of the scientific progrom. The program was presented by the Methodist Hospital staff and was as follows:

1. Multiple Polyposis of Colon with Recurring Carcinomas by Dr. Charles C. McLaughlin, Jr.
2. Diabetes with an Unusual Terminal Complication by Dr. Chester Thompson.
3. Idiopathic Cystic Medionecrosis of Aorta with Rupture in a 28-year-old man. By Dr. F. J. Murray and Dr. J. G. Brazer; presented by Dr. Murray.
4. Intracranial Hemorrhage in New-born by Dr. W. H. Taylor.

In addition to the speakers named, pictures and microscopic slides were shown and explained by Dr. Baker in connection with each subject, and x-ray films shown and explained by Dr. H. B. Hunt. Those taking part in the various discussions were Drs. Chas. Moon, Edmond Walsh, Rodney Bliss, Morris Margolin, F. W. Niehaus, J. J. Keegan, Floyd Clarke, Earl Sage and J. L. Gedgoud.

Before closing the meeting President Thompson commended Dr. Baker, chairman, and those taking part in the evening's program for the interesting material presented, and for the excellent coordination of its presentation.

Meeting adjourned 9:40 p. m.

The Adams County Medical Society held its regular monthly meeting on the evening of October, 7th, 1942, at the Hastings State Hospital. The guest speaker of the evening was Dr. Hancock of Lincoln, Nebraska, who was introduced by Dr. Leonard Swanson of Hastings, Nebraska. Dr. Hancock's subject was "Poliomyelitis." He discussed symtopms, pathology and treatment of the disease. The treatment of choice was that of Sister Kenny, the noted Australian nurse, which method he briefly discussed, and also presented a film which demonstrated in part some of the method of treatment.

110 persons were present at the talk. Included in this group besides the physicians were student nurse affiliates, students and graduates of Mary Lanning Hospital, and doctors wives.

Dr. O. W. Everett, newly appointed Superintendent at Ingleside, was accepted for membership in the society.

The meeting was closed in order after a routine discussion of the business of the society. Marie N. Simonsen, M. D., Sec'y-Treas.

The regular meeting of the **Five-County Medical Society** was held Thursday, October 1, 1942, at the Stratton Hotel, Wayne, Nebraska. Dinner was served to thirty-two members, their wives, and guests.

The meeting was called to order by President Dr. R. P. Carroll. It was moved and seconded to return the application for membership in the **Five-County Medical Society**, along with the fee to Dr. Wm. A. Johnson, formerly of Laurel, Nebraska, by reason that he had now moved to Holdrege. Nebraska. and was out of our jurisdiction. Carried.

The chair appointed Drs. Killian, Peters, and Blume to draw up a resolution of sympathy and forward same to Mrs. F. W. Luhman of Pender, Nebraska.

Because of the difficulty of obtaining speakers and the tire shortage it was moved that the secretary contact the secretary of the **Six-County Medical Society** to suggest that the two societies hold joint meeting for the duration. Seconded. Carried.

It was moved and seconded that the **Five-County Medical Society** contribute the sum of $15 to the National Physicians Committee. Carried.

The Scientific Program was in charge of the Randolph doctors and was as follows:

"Carcinoma Breast," Charles T. Maxwell, M. D., Sioux City, Iowa.

"Common Cold," James E. Reeder, M. D., Sioux City, Iowa.

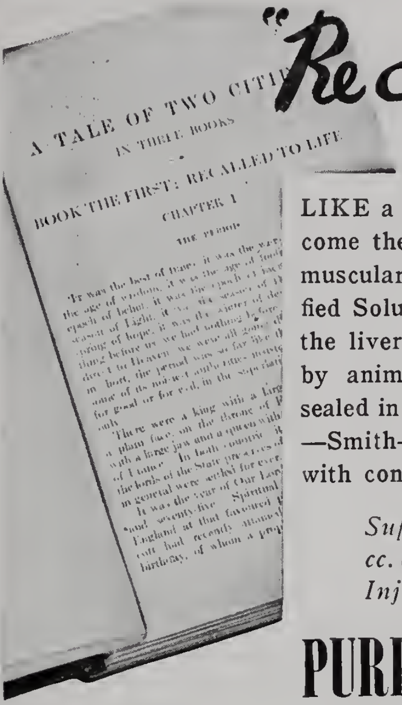
The Fourth Councilor District Meeting, sponsored bySix **County Medical Society** met Tuesday, the 15th of September at the Methodist church in Pierce, Nebraska. Dinner at seven.

Program: "The Kenney Treatment of Poliomyelitis," by Dr. E. W. Hancock, Lincoln.

"Fractures About the Knee," Dr. J. E. M. Thomson, Lincoln.

Committee in charge: Drs. J. H. Calvert and W. I. Devers.

(Continued on page xvii)



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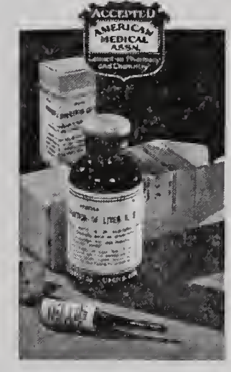

SOCIETIES

(Continued from page 400)

Medical organization for possible war emergencies was the principal business at a dinner meeting of the **Tri-County Medical Society** September 24, at the St. Francis hospital. Dr. J. G. Woodin, president, presided and wives of members were guests.

"New Growths," was the scientific subject of the evening with Drs. Rodney Bliss, Howard Hunt and Charles Baker, all of Omaha, as speakers.

Wives retired following the dinner for an entertainment program.

DEATHS

Milroy, William Forsyth, Hollywood, Calif., born 1855 in New York. He graduated from Columbia University College of Physicians and Surgeons New York in 1883, came to Omaha in the early Nineties, and soon acquired a lucrative practice in internal medicine. He was active in the early days of organized medicine, serving on the councils of various midwest organizations. He was president of the Omaha-Douglas County Medical Society in 1890 and of the Nebraska State Medical Association in 1916. Dr. Milroy was very modest and unassuming, yet had a delightful and dry sense of humor. His stories regarding the procurement of anatomical material in the early days of the medical school were enjoyed by many of his colleagues. He served on the faculty of the University of Nebraska College of Medicine for 49 years, until he retired in 1933 to move to California. Death occurred on September 21, 1942. Surviving are two daughters.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. H. M. Hepperlen of Beatrice spent two weeks in Chicago Clinics the earlier part of October.

Dr. A. E. Reeves of Gothenburg spent the latter part of September taking post graduate work at the Mayo Clinic.

Dr. A. M. Pedersen is in charge of the ordinance plant at Sidney.

Dr. F. L. Blessing of Ord was elected President of the Cosmopolitan Club in September.

Dr. H. L. McLeay, formerly of Edgar, has become connected with Lincoln State Hospital.

Dr. J. M. Willis of McCook attended the Southwest Clinical Society meeting in Kansas City in October.

Dr. J. B. Potts has returned to Omaha from a two months' stay in California.

Dr. W. D. Bell has returned to Blair to practice.

Dr. J. P. Eagleton, formerly of Fort Lyon, Colorado, has located in Long Pine.

Dr. John A. Tamisiea of Omaha was elected to College Aviation Medicine in September.

Dr. Oliver Everett of Lincoln succeeded Dr. Juul Nielsen as Superintendent of Hastings State Hospital.

Dr. E. E. McMahon has returned from California

(Continued on page xviii)

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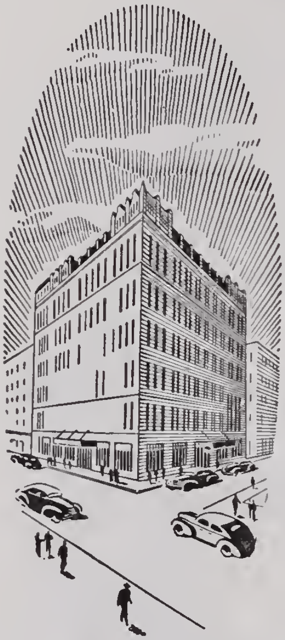

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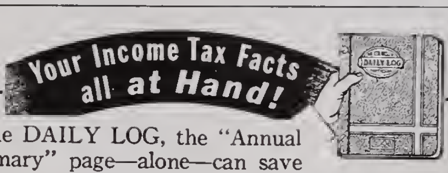
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HUMAN INTEREST TALES

(Continued from page xvii)

to become associated with Dr. F. J. Murray of Omaha.

Dr. George DeMay, formerly of Shelton, has moved to Warren, Ohio.

Dr. A. Waggener of Humboldt celebrated his 90th birthday October sixth. Dr. and Mrs. Waggener gave a dinner at their home to celebrate the occasion.

Drs. Broz and Seng of Alliance, Nebr., have been appointed to take care of the men at the Alliance Glider Base now under construction. They maintain an infirmary, and four first aid stations on the Area.

The Journal expresses its sympathy to Dr. H. W. Saylor of Bruning, on the death of his wife September, 27, 1942.

TUBERCULOSIS ABSTRACTS

The importance of the role of the general practitioner in the eradication of tuberculosis cannot be overemphasized. Mass programs of case finding in high schools, colleges, industry and racial groups are public health functions. But there are other categories that such drag-nets do not reach. One of these is the older third of the population. They constitute no single group to be rounded up for mass examination. Yet, they contain a higher percentage of infectious cases than any other age. The family doctor alone has direct access to this reservoir of community infection. To drain it effectively and speedily his aid is indispensable.

(Continued on page xix)

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TUBERCULOSIS ABSTRACTS

(Continued from page xviii)

Undiagnosed Tuberculosis In Elderly Persons

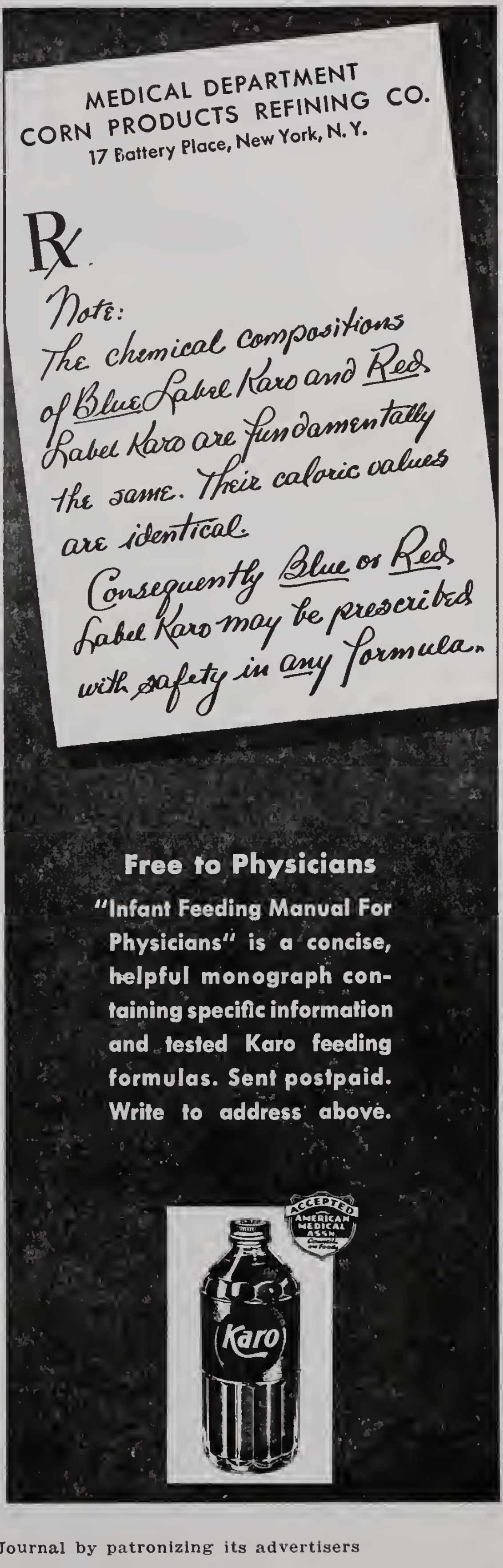
Tuberculosis has been commonly considered a disease of youth. Its largest number of victims are post-adolescents and those of early middle life when super-infections most often occur. Many there are, however, who do not succumb to the disease nor yet eliminate the infection. As hosts to the tubercle bacillus they carry on an adjusted symbiotic existence which may reach into a green old age. The chronic cough attributed to "asthma" or "bronchitis may actually be due to an indolent tuberculous process often accompanied by bacillary sputum. The menace of such occult cases to family and friends is obvious.

The detection of these cases is among the more baffling problems of a control program since experience has shown that it is difficult to obtain the examination of the elderly spreaders. They are naturally skeptical of the idea that they may be infected and often refuse examination through apathy or through fear that something may be found that would alter their customary manner of life. Commissioner Godfrey in a study of 17 counties in upstate New York found that in the cases studied 43% of the contacts under forty were examined, against only 14% of those contacts who were above that age.

"The best method of finding the elderly spreader of tuberculosis would seem to be the mass X-ray survey. Up to the present time, however, this method has not been used widely. Bloch has estimated that more than half the reports published on surveys in adults concern themselves with university students, hospital personnel and student nurses. The majority of other surveys have been made on industrial and racial groups containing only a relatively small percentage of persons above the age of forty.

"Despite the fact that he is seldom discovered by any of the aforementioned methods of case finding, the relative frequency with which the elderly phthisic occurs in the population should make him of the greatest concern to those interested in tuberculosis control. Mortality figures for the United States, as prepared by Dublin, show that the highest

(Continued on page xx)



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TUBERCULOSIS ABSTRACTS

(Continued from page xix

death rate from tuberculosis occurs in males from sixty-five to seventy-four years of age, and in females seventy-five and over. Mortality statistics for New York City, prepared by Drolet, illustrate the fact that the decline in tuberculosis mortality since 1920 has been much greater in the young than in the old, particularly in males. The phenomenal decrease in tuberculosis among younger persons of New York City during this twenty-year period may very well reflect the efficiency of the methods used for its prevention, detection and treatment, while the high mortality of the elderly may partially be due to the fact that the same degree of emphasis has not been placed on the control of tuberculosis in this group."

At the Kips Bay-Yorkville Chest Clinic (New York City) a mass X-ray survey was made of 3,414 apparently healthy persons on home relief. The following table shows that the percentage of tuberculosis proved to be highest among those above 40 years of age.

Age and sex distribution of chronic and significant pulmonary tuberculosis

	MALES					FEMALES				
AGE GROUP	Number examined	Chronic pulmonary tuberculosis	Per cent	Significant pulmonary tuberculosis	Per cent	Number examined	Chronic pulmonary tuberculosis	Per cent	Significant pulmonary tuberculosis	Per cent
15-19.9	133	0		0		134	0		0	
20-29.9	74	2	2.70	2	2.70	161	1	0.62	0	
30-39.9	192	11	5.73	5	2.60	314	9	2.87	5	1.59
40-49.9	257	30	11.67	17	6.61	347	17	4.90	6	1.73
50-59.9	365	44	12.05	22	6.03	418	35	8.37	10	2.39
60-69.9	350	50	14.29	17	4.86	450	49	10.89	8	1.78
70-79.9	116	20	17.24	5	4.31	84	9	10.71	3	3.57
80-84.9	9	2	22.22	0		10	2	20.00	0	
Total	1,496	159	10.63	68	4.55	1,918	122	6.36	32	1.67
Under 40	399	13	3.26	7	1.75	609	10	1.64	5	0.82
Over 40	1,097	146	13.31	61	5.56	1,309	112	8.56	27	2.06

Of the 100 clinically significant cases, 29 have proved to be active on the basis of either (1)

(Continued on page xxiii)

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TUBERCULOSIS ABSTRACTS

(continued from page xx)

changes in the X-ray appearance of the lesions; either progressive or regressive and (2) positive sputum.

Twelve of the positive-sputum cases found were over 50 years of age. None of these had marked symptoms at the time they were discovered and some have remained symptom free during a subsequent two years of observation. In such cases reactivation may await some new strain such as an extra physical load imposed on the worker who enters war industry. This is a risk for the healed or arrested case as well.

"It is not known whether the higher incidence of tuberculosis in the elderly which we have encountered in a group of unemployed also occurs in elderly persons of higher income levels. Since mortality tables are prepared from deaths at all strata, it would seem possible that this may be the actual state of affairs. In any event, it is of the utmost importance to devote a greater portion of our efforts in tuberculosis case-finding to the discovery of the elderly individual with tuberculosis. This should be done without lessening case-finding measures in young persons, as the latter comprise a larger proportion of the population. Consequently, although the percentage of tuberculosis may be less in those of younger years, the absolute number of cases undoubtedly is greater.

"More emphasis should be placed on the examination of all possible sources of a newly diagnosed case of tuberculosis. Even when the older members of a tuberculous household appear to be in the best of health, they should be X-rayed. When a thorough search of the immediate family of an affected person fails to reveal the source of infection, further inquiries should be made as to the identity of others with whom he has most frequent contact, and examination of these persons should be arranged.

"The physician should also always suspect tuberculosis in all his elderly patients who have even mild pulmonary symptoms, and should take the necessary steps to rule out this disease before making a final diagnosis.

"The most productive method of case finding among the elderly would seem to be the X-ray survey of such population groups. The survey detailed in this paper serves to illustrate the value of such a procedure. Similar surveys concentrated on the older fraction of the population, particularly males, would, we believe, disclose many unknown spreaders of tuberculosis who have been acting as reservoirs of disease in their communities."

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Annually, victims of countless medical frauds hand over millions of dollars to the promoters of worthless gadgets, false cures and nosturms, R. M. Cunningham, Jr., Chicago, declares in Hygeia, The Health Magazine for September. "At best," he says, "these victims are defrauded of their money; their hopes of relief from suffering are cruelly crushed. But there are graver consequences. Their health is endangered by delaying the scientific diag-

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Medical Frauds Cost Victims Millions Annually

(Continued from page xxiii)

nosis and treatment which hold their only real chance for recovery. Worse yet, in many instances they may have taken treatments or medications which were actually harmful . . .

"Sufferers who know or suspect that they have an incurable disease will grasp at straws; thus patent mummery flourishes when promoted under the label of 'cancer cure.' . . . Tuberculosis cures for years were sure-fire money makers for the unscrupulous. Advertisements commonly seek to profit by the tuberculosis patient's reluctance to be confined in a sanatorium and his fear of surgery. An order by the Federal Trade Commission prohibiting false representations by the manufacturer of one of these nostrums reveals that it had been advertised as a compound that would cure tuberculosis, not only 'without surgery or segregation'—the usual claims—but in this case 'without diagnosis' as well . . . Peddlers of nostrums were quick to recognize that the diabetic longs for some means of sustaining life without the necessity for daily injections of insulin. Today, many fakers are specializing in 'cures' for diabetes, claiming that they can effect permanent cures regardless of the age or condition of the patient, and that the users may discontinue taking insulin. Actually, the science of medicine knows no substitute for insulin injections for the diabetic whose blood sugar cannot be regulated by dietary management. . . "

Popular misconceptions about health, Mr. Cunningham declares, are an invitation for fraud. For example, he says, the widespread notion that backache indicates kidney disorder has created a market for herbs and drugs dispensed as cures for kidney trouble. While many of these are harmless, some of them may result in serious illness, even in those whose original backache was caused by simple muscular strain.

Venereal diseases and disorders affecting the reproductive system create another market for swindlers, the author contends, because of the average patient's embarrassment at discussing his condition personally and his consequent susceptibility to any fraud offering home treatment. None of the numerous "cures" for these diseases constitute competent treatment, and some are actually harmful. Also dangerous are many of the thousands of remedies whose appeal is based on the universality of the ailment they are supposed to prevent or relieve—the "reducing tonics" and the "cures" for baldness, the beautifiers and bust developers.

While the ignorant are most likely to be deceived by the more obvious medical frauds, Mr. Cunningham says that "the victims of medical frauds generally are by no means found only in uneducated groups; astonishing evidence of this can be seen in the medicine cabinets of many of the 'best homes.' No amount of education, apparently, will prevent ailing men and women from giving every proffered miracle a chance to perform. That hope persists in opposition to every reasonable possibility is well known to medical fakers, who work over the same lists time after time on the theory that a person who has been deceived by one swindle is a better, not a worse, prospect for the next one. The medicine cabinet, again, is proof: There is seldom just one nostrum in the cabinet, either there are none or there is a whole shelf full."

THE NEBRASKA STATE MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. 27 Norfolk, Nebraska, December, 1942 No. 12

The Present Day Problem in Tuberculosis*

BENJAMIN GOLDBERG, M. D.
Chicago, Ill.

Associate Professor of Medicine at the University of Illinois
College of Medicine, and President of the American
College of Chest Physicians

The "Captain of Men of Death" is not Mars. Injury, mutilation and destruction in war has not been the first and single greatest cause of death among humans. While war takes an immense toll of lives in the course of its many battles, this toll of lives has never equalled in the long annals of history, the record toll of one disease Tuberculosis, and to Tuberculosis the appelation "Captain of Men of Death," as yet, applies throughout the world. The present estimate as to the total population of the world is 2,200,000,000. While only an approximate estimate can be made of the tuberculosis mortality throughout the world, because statistical data are not available from great areas with immense populations such as China, India and even Russia; figures, however, have been obtainable from most of Europe and America. Taking our knowledge of group studies in death rates, one can conservatively apply an average present mortality in tuberculosis of 90 per 100,000 population. This would indicate that at this time, there are approximately 2,000,000 deaths annually from this cause alone. If we look further and see the picture on the basis of an entire lifetime, one realizes that at least 8 percent at a minimum of all deaths are due to tuberculosis. Therefore, among those alive in the world at this time, it is entirely likely that anywhere from 175,000,000 to 200,000,000 will perish from the inroads of tubercle bacilli. But war and the consequences of war have always caused an increase in the morbidity and the mortality from phthisis. Prior to World Ward Number I, there were certain levels of morbidity and mortality in tuberculosis that had come into certain nations with racial stocks limited to definite types within the confines of their own countries. But with the coming of War, there was a marked congestion in urban centers, physical and nervous fatigue, inadequate housing and a depletion of food reserves. Intimacy of contact allowed for greater dissemination of infection and failure of constitutional resistance allowed increased development of disease.

In the German cities with population of 15,000 and over the death rate, which in 1913 was 157 per 100,000, rose in 1918 to a maximum of 287. Individual cities like Vienna and Warsaw showed much worse conditions. In 1913, the rates for tuberculosis in these two cities were 302 and 306 per 100,000, respectively. By 1917, at the height of the war, these figures had risen to 425 for Vienna and 840 for Warsaw, declining in 1920 to 405 and 338 per 100,000 of population. Cities which, like Belgrade, passed through long periods of military occupation and food stringency showed maximum rates, rising even to the horrifying figure of over 1,400 per 100,000 during 1918. But the high rates did not continue following the consumption of industry and the return of fairly normal conditions.

Even in the United States, the downward trend of tuberculosis mortality was halted in 1916 and reversed into new heights in 1917 and 1918. Heights which approximated the mortalities of 1907—a temporary step backward of ten years. In the present war, the only comparative statistics for the past three years are those from England, Wales and Scotland, where an increase of more than 15% in tuberculosis mortality is noted for 1941 over 1939. In London, the increase is more marked. There in 1939, the rate was reported at 78, and in 1940, at 97 per 100,000 population. In Glasgow, the deaths numbered 972 in 1939; 1,177 in 1940; and in 1941, they were estimated to reach 1,342(1).

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*Read before Seventy fourth Annual Convention, Nebraska State Medical Association, May 6, 1942.

Studying the tuberculosis trends in this country, at the turn of this century the death rate was over 200 per 100,000. In 1941, it had decreased to an all time low of under 45.

In comparison, we should not forget that there are other countries where tuberculosis death rates continue to range between two hundred and five hundred per one hundred thousand at this time. We must also remember that only two decades ago, the age group of 21 years and over showed evidence of tuberculous infection in at least 95 per cent of the inhabitants of this country, as determined by tuberculin sensitization tests, and that today, only about fifty percent of this same age group evidence such infection.

The victims of tuberculosis are found in greatest numbers between the ages of 15 and 35, in which age groups this disease still is the first cause of death in the United States. Under the present emergency, where it is of paramount importance to maintain health and vigor for physical and mental efficiency on the combat line or in the increased needs of production in industry, more careful attention must be given to the control and continued eradication of this killer.

If we were to list the most important factors in the achievement of the low mortality attained in this country, we would have to present the following three considerations:

1. The detection of the tuberculosis individual, having a positive sputum and controlling that individual, or the disease which he has, so that he is not capable of further spread of infection.

2. The building and development of many institutions where such individuals may be housed and treated to prevent spreading the disease.

3. The work of the veterinarian in eradicating tuberculosis in cattle has resulted in the fact that less than one-half of one per cent of cattle housed for dairy purposes in this country show evidence of tuberculosis. Thus, the almost complete absence of tubercle bacilli in this most important article of food has resulted in nearly a complete disappearance of the nonpulmonary forms of this disease.

We should also appreciate the improvement noted in the constitutional resistance of individuals in this country, which has resulted from the following factors:

1. An improved knowledge of dietary habits, particularly as they refer to the basic food components, proteins, fats and carbohydrates, and our augmented knowledge and use of vitamins and mineral salts.

2. Recognition of the importance of adequate and proper housing.

3. A better realization of the necessity for avoiding mental and physical fatigue, and the importance of a happy outlook.

Tuberculosis, in the aged is today frequently mentioned as a problem. I have mentioned the lessening incidence of infection in our youth, but we also see many reports concerning the frequency of tuberculosis in those above fifty years of age. We must not forget that the age group of fifty years and over belonged to the youth of those years when tuberculous infection was manifested in every inhabitant of our country. We should also remember that with increased longevity at this time, sixty-two years being the average in this country, new pathological entities occupy the forefront of the mortality tables. Leading the procession today, are heart disease, blood vessel and kidney conditions, diabetes, and other metabolic states which call for dietetic alterations—allowing a dormant tubercle to become active in an altered tissue chemistry and tissue reactivity.

Today, with our country, compelled to enter into a state of war, the requirements are for an all-out production effort, causing shifting of masses of population, not only into the armed forces of the country, but into urban centers, where industry necessary to war has been extended to two, three, or four times the previous capacity in space and men. This, to meet the needs of the emergency. National leaders, appreciating the importance of preventing physical fatigue; of supplying dietaries which are adequate; and also, in attempting to make certain that a sufficiency of housing will also not be neglected, are considering in these preparations the maintenance of the health of our nation. If these conditions are not allowed to obtain, there is no question but that among the fifty per cent of individuals showing evidence of tuberculous infection in this country, we must allow for the development of much tuberculous disease.

The important considerations that today exist in a further control of this disease, and, perhaps, its ultimate eradication may be listed as follows:

1. Case Finding. It is still most important that we discover all of the tuberculosis cases present in this country, and as we have so often reiterated in previous writings: Both in the armed services and in industry. Especially should a survey be maintained to discover early disease, and prevent its spread. The simplest procedure is utilization of tuberculin tests and chest roentgen films in cases with positive reactions. When the tuberculin is potent and a satisfactory dosage is properly used intradermally, very few false negative reactions are seen, and these all have a definite basis which can be determined. The x-ray film of the chest, when properly taken and interpreted will delineate with a greater degree of accuracy the presence and extent of lung pathology than any other method we have at our disposal.

2. Prevention by Vaccination. Vaccination by inoculation has interested tuberculosis research workers for years. At first, dead bacilli were used, later liver virulent organisms, such as B. C. G., the Bacillus Calmette-Guerin. We must remember that bodies or substances immune to tuberculous infection or disease have never been demonstrated; that the only supposed protective mechanism is the specific sensitization to tuberculous infection implanted, intentionally or accidentally, in the human host. That, also, the causation of disease, where such sensitization has occurred in the presence of re-infection or secondary infection, is dependent on the degree of sensitization and the number and virulence of the secondary infecting tubercle bacilli. This allows for either the localization of these new invading organisms and their subsidence or the occurrence of serious destructive lesions.

Inasmuch as sensitization cannot be made constant, and the number and virulence of the secondary infection tubercle bacilli, which are accidentally met on the highways of life cannot be determined, and inasmuch as we have not as yet seen or heard of any evidence that could point to the limitation of sensitization through inoculation by vaccination, which might guarantee definite localization of disease when re-infection takes place, we have refrained from recommending this method of tuberculosis prevention.

3. Specific Therapy. Chemotherapy in tuberculosis has received more impetus lately in an attempt at achieving the destruction of the tubercle bacillus, in vivo, without destruction of the body tissue cells in and surrounding the disease area. Jaffe(2) has shown—that only "in very few instances do blood vessels penetrate tubercle," and, therefore, with blood vessels-thrombosed in the periphery of areas of tuberculous pathology, direct action upon the bacilli in the caseous centers through the application of chemicals has limited possibilities.

The thought engendered in the utilization of bactericidal substances in chemotherapy is based on their combination with aniline dyes in the hope that a chemotactic cellular affinity for such dyes would take place and allow bacillary destruction. In recent months, there is an ever brightening possibility of this latter occurrence. The Sulfonamide group of chemicals have proven to be, what is probably the single greatest discovery in combatting infection in the human body. One of this group, Promin has in animal experimentation demonstrated ability to diminish the number of viable tubercle bacilli in the blood stream and also to delay and prevent tubercle caseation. This experimentation, however, is in animals who were given Promin immediately before, during, and after inoculation with a virulent strain of tubercle bacilli. There is still doubt as to how this chemical or any allied chemical combination will act where tuberculous disease of the caseous pneumonic type, has already been established and vascularity in the disease area has been stopped at the margins of pathological change. It is however, to be hoped that definite benefits will accrue. If the eradication of tuberculous infection is possible through such means, this will leave only to correct the alterations in tissue structure, which have occurred consequent on the presence of tuberculosis infection prior to its eradication.

4. Continuance of our present methods of management in the presence of active disease.

a. There should be continuation in the supervision of the tuberculous, which requires that all cases be reported to the public health authorities.

b. Persistence in the usual therapeutic regime of rest; diet which is well balanced as to proteins, fats, carbohydrates, mineral salts and vitamins; and fresh air.

c. Surgical collapse procedures. Artificial pneumothorax continues to stand out as the single most effective method of collapse therapy and should be used in every instance where parenchymal destruction is evident. Its application can be made more extensively in association with intrapleural pneumonolysis when adhesions prevent an adequate collapse. The development of many new selective and local surgical collapse procedures has allowed for a lessening of the number of complete thoracoplasties, but the latter procedure, when indicated, is as yet an important life-saving operative procedure and should not be left as a last resort. Local methods to aid in cavity collapse are: extrapleural packs, paraffin, rubber, tissue-substance as fascia, extrapleural pneumothorax, the Monaldi cavity aspiration, and partial or complete thoracoplasity.

Finally, I would remind you that this is a war of efficiency. A war of ingenious invention for destruction. Yet, it can only be a victorious war when the machinery developed to fight is controlled by hands of human beings, who are physically and mentally fit to fight. The task of maintaining this fitness is in the hands of the medical profession. It must direct industry, labor and the armed services in setting up those safe-guards, which will maintain the physical needs to achieve that victory.

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Chemotherapy in Diseases of the Genito-Urinary Tract*

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From the earliest records of medical history down to our own times, innumerable drugs and preparations, many of them listed in the pharmacopeia, have been advocated, prescribed, and used in the treatment of diseases of the genito-urinary tract. A few have stood the test, and are still in favor. Most of them in their day had their advocates, as well as their critics as is evident from the reports and findings which are cluttering up medical literature at an ever-increasing rate. That many of the once popular methods of treatment have fallen by the wayside is not to be wondered at, since they did not cure the patient of his malady, and only too often added to his sufferings and torture.

The search for the perfect urinary antiseptic has been long and laborious. Twenty years ago Davis(1) described the ideal type of bactericide for internal use. It should be chemically stable, non-toxic in therapeutic doses, and not irritate the urinary tract mucosa; moreover, it should be bactericidal in high dilution of urine, acid, neutral or alkaline in reaction, and capable of being excreted practically unchanged in full amount by the kidneys. But he added significantly as did his colleagues, "There is no such drug known." Still, during the two decades which have passed since this remark was made, medical science has progressed towards this goal. In considering the oral and local useage of any germicide, two main ideas must be kept in mind. First, the inhibition or destruction of the infecting micro-organisms, and secondly, production of an immunization reaction in the tissues of the patient, thus enabling him to present the needed resistance to the infection. We concede that this stimulation of the natural resistance of the mucous membrane of the urinary tract is almost as important as the destruction of the invading organisms.

To illustrate this point, suppose an irritative antiseptic were erroneously applied to the urethral mucous membranes; it may be bactericidal to the infective gonococcus or staphlococcus, but it may also attack the normal epithelium and be the precursor of stricture formation.

What is the attitude of the urologist on this point? He is rather wary from the experience of the past. In the attempt to destroy the invading hosts, the physician will not subject the delicate membrane of the urinary tract to strong antiseptics, thereby sacrificing a great adjunct of natural immunity by exhausting the power of resistance in the patient. He is convinced that any medication which is intended for such sensitive tissues should be of the mildest kind consistent with efficiency and effectiveness.

A classification of some of the older types of local antiseptics for the urinary tract may be grouped as follows:

1. The Mercurials.
2. Silver Salts, organic and inorganic.
3. Dye therapy.
4. Chemotherapy: Potassium permanganate, boric acid, phenol, cresol, trinitro-phenol (picric acid), and other widely used drugs.

Although definitely limited in their scope, these drugs were used chiefly as injections, instillations and irrigations. To mention briefly a few:

1. Potassium permanganate is the most common antiseptic astringent. It acts directly on the gonococcus and indirectly on the mucosa causing edema. Its germicidal power is low.

2. Mercurochrome if given too often is irritative. Its intravenous use as advocated by Young is gradually falling into disrepute. It is neither useful nor safe.

3. Acriflavine (USP). In selected cases and when properly diluted it has given satisfactory results. If too strong concentrations are used, it invites stricture due to chemical inflammation of the tissues. It is deceptive and not without danger. One injection a day should be the limit.

4. Boric acid is really not bactericidal but conjunction with some other antiseptic.

5. Silver Nitrate (USP) is the inorganic is useful as a cleanser and generally used in salt of silver. It forms precipitates with proteins and has a high antiseptic effect with a low toxicity.

6. Strong Protein Silver (USP). Protargol has strong bacteriostatic effect but is also an irritant and deteriorates quickly.

7. Mild Protein Silver, Argyrol, neosilvol, are non-irritating, less active as antiseptics, and act as detergents for the removal of pus and secretions.

8. Neoarsphenamine. Gram-positive coccal infections which are not complicated have responded to Neoarsphenamine in small doses given four or five days apart.

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*Read before Seventy-fourth Annual Convention Nebraska State Medical Association, Omaha, May 5, 1942.

9. Colloidal Iodine. Herman(2) reports apparent benefit in some cases of advanced pyelo-nephritis with the use of colloidal iodine given in 20 c.c. doses for three or more successive days.

10. Methenamine. Perhaps the most extensive and widely used urinary antiseptic until recently is Methenamine (Urotropin). It is usually well tolerated in massive doses, 60 to 90 grams daily. In order to render the urine sufficiently acid to liberate formaldehyde from the methenamine, it is customary to combine with it sodium di-acid phosphate until the urinary reaction is definitely on the acid side.

Mandelic acid was recommended by Rosenheim(3) for urinary acidification; he found that it passes through the body and is excreted unchanged in the urine. Organisms susceptible to it are: B. Coli, Psuedomonas, Alcaligenes, Salmonella, Shigella, and S. Faecalis. Nausea and vomiting are occasionally present during mandelic acid therapy, but the use of enseal tablets has minimized and almost totally eliminated gastric disturbances. Eight to twelve grams of mandelic salt are given in divided doses each day. Treatment is usually continued not longer than ten days, after which a rest period of at least a week is allowed in order to avoid the establishment of tolerance to the drug, and to preclude possible kidney damage. Fluid intake should be restricted to 1200 cc. daily. The urine must be maintained at pH 5.5 or below. If the pH remains above this level, one of the following may be suspected as the cause: Inadequate intake of acidifying salts, unrestricted fluid intake, inability of kidneys to concentrate a highly acid urine, presence of proteus as the infected organism which produces ammonia from urea. A brief rest period should be allowed before a second course is begun. Albumin and casts should be watched for. In elderly patients P. S. P. and blood chemistry tests should be carried out before and during treatment. If fever is present administration of the acid should be postponed, because of limitation of fluids when the temperature is high, and the danger of acidosis should not be risked.

The testing of the urine for the proper pH may be accomplished by the use of the new indicator paper developed for that specific purpose. A definite color change marks each transition in pH change; at pH 4.0 the color is greenish-yellow and graduated changes through lavender and purple appear as the pH increases. Methyl red test solution is satisfactory if an indicator solution is desired. When five drops are added to 2 cc. of urine, a red color results if the pH is 5.5 or less. A yellow or orange color signifies an inadequate acidity and suggests that treatment should be intensified.

Methenamine mandelate is a chemical combination of mandelic acid and methenamine and is very soluble in water, alcohol, acetone, etc. The dosage is 2.25 grams daily of methenamine mandelate (Mandelamine), of which 1.18 grams are mandelic acid and 1.07 grams are methenamine by analysis. The maximum is three tablets four times a day with urine pH at 6.0. At no time have any gastro-intestinal symptoms such as nausea or vomiting occurred in clinical trials. The organisms found susceptible to it are: B. Coli, Staphylococcus albus, and nonhemolytic streptococcus. In sixty-three cases reported, Kirwin(4) proved it to be superior to mandelic acid. No toxic effects were noticed in any of the patients that were so treated.

The beginning of clinical interest in the newer type of chemotherapy, namely, the sulfonamides, dates back to 1935 when Domagk(5) made the discovery that certain dyes derived from sulfanilamide possessed anti-streptococcic activity. This investigator, while studying azo dyes demonstrated that an azo-sulfonamide compound was capable of producing an anti-bacterial activity in vivo. By the oral administration of the dye 4-sulfamido-2:4-diaminoazo-benzene, known as Prontylin, into mice, complete immunization was affected against inoculations of virulent strains of streptococcus organism. This work was soon confirmed by the work of Trefouls(6) at the Pasteur Institute. Further discoveries were made which established the fact that the azo dye can control experimental streptococcal infections in small laboratory animals. Thus came into being the next popular chemotherapeutic substances known as Prontosil and Neo-prontosil, all developed from the original formula. Later, all of these agents went under the general name of sulfanilamide, a drug which possesses positive anti-streptococcic activity.

In 1937 prontylin, the pioneer substance available from the newer field of chemotherapy was used for the first time in the treatment of gonorrhea. Thereafter prontosil, then neo-prontosil and finally sulfanilamide found favor in clinics all over the world. On glancing back at those hectic days of 1937 and 1938, one is awed at the enormous amount of literature that appeared in medical publications lauding the merits of these new preparations. The conclusion seemed to be that a specific had been found for Neisserian infections and their complications, for some practitioners had reported as high as ninety per cent cures in the course of a few weeks by the use of the new sulfonamides.

Sulfanilamide, undoubtedly has a very marked effect upon infections due to beta hemolytic streptococcus of Lancefield Group A. It also has some effect upon streptococci of Groups B. C. and G., but not Group D. Infections of the urinary tract due to B. Coli, Proteus, and certain other organisms have responded satisfactorily to sulfanilamide therapy, because with their therapeutic doses, high concentrations of the drug can be obtained in the urine. It is still debatable, however, whether sulfanilamide is bactericidal, and hence, solely responsible for the clinical results obtained, or whether it is only bacteriostatic and simply an ally of other defensive agencies of the body. After a review of all the evidence available at the present time, it appear that the drug exerts a bacteriostatic action upon certain bacteria by some mechanism as yet undetermined.

In the treatment of gonorrhea, Pelouze(7), after analyzing the data collected by the American Neisserian Society, states that in the management of gonorrhea, sulfanilamide is reported to have brought about prompt cures in from twenty-five to forty per cent of dispensary patients, from forty-five to fifty-five per cent of office patients, and seventy-five to eighty-five per cent of bed patients. Complications observed following the use of sulfanilamide are cyanosis in variabdominal cramps, diarrhea, fever, acidosis, granulocytopenia, dermatitis, etc., all of which usualy subside and promptly disappear following the discontinuance of the drug. The addition of sodium bicarbonate may minimize or prevent certain cases of acidosis. Sulfanilamide may be used without ill effect for five to seven days continuously if followed by a period of rest for a week or longer. Repeated blood counts, close and frequent observations are of paramount importance in all patients under therapy.

Sulfapyridine, a derivative of sulfanilamide, developed in England in 1938 and studied extensively in the United States, has proved more effective against the gonococcus than sulfanilamide. The chief untoward effects produced are closely akin to those of sulfanilamide except that they are not so severe. Acidosis rarely results from its use, although dermatitis and toxic hepatitis have been known to follow its administration. Probably the chief difficulty met with in the use of sufapyridine is the formation of renal and bladder concretions formed from the conjugated derivative, though death itself from acute obstruction has been reported. Pain and hematuria are the symptoms to be watched for in this connection; if hematuria develops, administration of the drug should cease at once. Southwork and Cooke(8) noted acute abdominal pain of renal and ureteral origin together with development of nitrogen retention associated with hematuria following the use of sulfapyridine. As a precautionary measure, Long and Bliss(9) advise the routine administration of bicarbonate of soda and consequent alkalinization of the urine to inhibit the precipitation of acetylsulfapyridine. They also suggest that enough fluid be given to keep the urinary output at 1000 to 1500 cc. or above this amount. Daily examinations of the blood for free sulfapyridine content are of great aid in controlling the adequacy of the dosage.

Probably the treatment most in favor for infections of the urogenital tract is by the use of sulfathiazole. It has a definite chemotherapeutic effect against pneumonococcal and staphylococcal infections. Its chief advantages in comparison with sulfapyridine are believed to be: More uniform absorption, less conjugation after absorption, so that a higher proportion of the total drug in the body-fluids is chemotherapeutically active; less tendency to cause serious nausea or provoke vomiting and greater effectiveness against staphylococcus and gonococcus and urinary tract infections. Sulfathiazole appears to be excreted at a more rapid rate than sulfapyridine; this may be a disadvantage; it also fails to appear effectively in the spinal fluid.

In acute gonorrhea a dosage schedule of four grams daily for five days, or perhaps better, four grams for the first day followed by two grams daily for eight days, administered in divided doses four times a day, is reported to give an average of 95 per cent cures. In our own private practice, as well as in the urological department of the Creighton Medical School Dispensary, we give one gram, or, two tablets each gr. 7.7 three times daily for gonorrheal and allied infections. One dram of sodium bicarbonate is prescribed daily for five to seven days. In elderly, or markedly debilitated individuals, the dosage is correspondingly lessened. In chronic gonorrhea, treatment needs to be extended over a longer period of time, but the patient should be carefully checked at intervals for untoward symptoms. Like all sulfonamide preparations, sulfathiazole, although the least toxic may produce effects that need close observation. If severe, the dosage should be immediately diminished or the drug entirely withdrawn; in which case adverse symptoms usually subside promptly.

The therapeutic value of sulfathiazole is indicated by the following reports. Walther(10) writes, "So far in using it experimentally in a number of cases or resistant staphylococcus infections of the bladder following transurethral prostatic resection, sulfathiazole has completely cleared up four bladders within a week or less time; these cases resisted local treatment combined with the oral administration of other members of the azo derivative group. It is far less toxic than sulfanilamide when given in corresponding doses."

Alyea and Stuart(11) in their bacteriologic studies of urinary tract infections report "It is thoroughly established that sulfathiazole is bactericidal for colon bacillus, streptococcus fecalis, pyocyaneus, proteus bacillus and staphylococcus. Carrying out careful clinical, bio-chemical and bacteriologic observations on two hundred and fifty hospitalized patients, the following results were obtained:

"Sulfanilamide therapy rendered 80.6% cured for colon bacillus.

"Sulfanilamide therapy rendered 62.5% cured for staphylococcus.

Sulfapyridine therapy rendered 86.2% cured for colon bacillus.

"Sulfapyridine therapy rendered 75.0% cured for staphylococcus.

"Sulfathiazole therapy rendered 75.0% cured for colon bacillus.

Sulfathiazole therapy rendered 87.5% cured for staphylococcus.

They further state that "It is unnecessary to have either a high blood level or a high drug concentration in the urine to effect a cure of urinary tract infections." Their work showed that no good results were effected by raising the dosage of the same drug.

Carroll, Kappel and Allen(12) report on several different types of urinary tract infections as follows: In chronic prostatitis, in a group of seventeen patients, one case had less frequency, one had less nocturia, and three cases had disappearance of associated chronic cystitis. In pyelitis and pyelonephritis, grouping all cases together without regard to organism, fifty-four per cent treated by sulfathiazole were apparently relieved of infection and remained so. Twenty-three per cent of all patients treated had recurrences, although temporarily the urine became sterile on culture following the use of the drug. Sixteen per cent of those suffering from renal infections were improved by sulfathiazole, but never became entirely free from pus. Seven per cent were unaffected.

Two patients with Hunner's ulcer and interstitial cystitis, one of whom also had dilated ureters with regurgitation were treated with sulfathiazole. The drug greatly improved the condition in one patient causing the urine to become acid for the first time in eight years with disappearance of the deposits. The other patient was unaffected.

Deakin and Patton(13) report the clinical and bacteriological response on unselected cases of male gonorrhea treated in the Washington University Clinics with sulfonamide drugs as follows: In ninety-five cases in which sulfanilamide plus local treatment was used, seventy-two per cent of the patients became non-infectious. In forty-seven cases with sulfapyridine alone, eighty per cent, and in two hundred cases with sulfathiazole alone, the percentage rose to ninety-six. They add further that the estimated rate of ninety-six per cent is presented for any comparable hypothetical group of patients in which there were no lapses from attendance for any reason, under the treatment schedule used, namely, a single five day twenty gram course of sulfathiazole. They found that the drug had a greater efficiency in both eradicating an already existent prostatitis and in preventing the development of prostatitis where presumably none existed at the onset of treatment. At no time during their work was the intolerance of any case for the drug sufficient to cause its withdrawal.

In a comparative study of the bactericidal effect of low concentrations of sulfanilamide and sulfathiazole on bacteria from urinary infections, Helmholz(14) reports definite bactericidal action at 10 mg. per 100 cc. for sulfathiazole. He further states that with the number of bacteria affected by this drug it should be possible to clear up many infections that previously have been thought invulnerable because of lack of renal function. His observations indicate that sulfathiazole is decidedly superior to sulfanilamide in low concentrations, and when a dose of 0.125 gms. of sulfathiazole, given three times daily can keep a urine free from pus and with a bacterial count of less than 500 per 0.5 cc. of urine, it is doing something never before accomplished by a urinary antiseptic in a patient with a urea concentration of more than 150 mg. per 100 cc. of blood. This opens up a therapeutic approach to a group that has been considered hopeless in the past. The dose necessary to produce a bactericidal urine is so small (0.03 to 0.06 gm. five times a day) that it could be given prophylactically to all patients for the prevention of postoperative urinary infections.

Young, Hill and Semans(15) noting the frequency of stitch hole infections and minor breakdowns, particularly in plastic surgery of the penis, decided to try to prevent them by administering sulfathiazole before the operation and by continuing the drug afterward. Even though some of the patients were very young children, no serious reactions were encountered, and at no time was it necessary to discontinue the drug before the cure. The results obtained in twelve cases demonstrate conclusively that, by the use of sulfathiazole it is possible to obtain much better healing than heretofore; and even where there has been a small breakdown, under continued sulfathiazole therapy, healing has sometimes taken place even without the formation of a fistula. In some cases a silver clip was placed to approximate the edges of the breakdown in the skin, a procedure which had never before been possible in previous experience.

The number of sulfanilamide compounds that are being used as chemotherapeutic substances in the treatment of various infections especially of the urinary tract is steadily increasing. Research is being carried out with a twofold purpose; first, to procure drugs which are both more effective, and also more active against a larger number of different micro-organisms; secondly, to find drugs of lower toxicity and with less tendency to cause damage by crystallization and stone formation.

Sulfadiazine (2-sulfanilamido pyrimidine) is one of the newer drugs of promise. Feinstone, Williams, Wolff, Huntington, and Crossley(16) have reported on the basis of animal experiments, that sulfadiazine is as effective against hemolytic streptococci and pneumonococci as sulfanilamide, sulfapyridine, and sulfathiazole, in fact, sometimes even more so. Its effectiveness against Friedlander's bacillus was illustrated in a case treated unsuccessfully with sulfathiazole; upon administration of sulfadiazine, the blood culture became sterile. Neter(17) in his study of the anti-bacterial activity of sulfadiazine found it to be bacteriostatic and bactericidal toward B. coli suspended in urine. One of his patients with pyelitis failed to respond to sulfanilamide, but with sulfadiazine therapy the urine became sterile within a few days. Furthermore, it was reported that at a given blood concentration, sulfadiazine has a less deleterious effect on the tissues of animals than have sulfapyridine and sulfathiazole. Also noteworthy is the fact that sulfadiazine is not acetylated to as great an extent as sulfapyridine, and that acetyl-sulfadiazine is somewhat more soluble in urine than the acetyl-derivatives of sulfapyridine and sulfathiazole. This permits the administration of sulfadiazine to patients with markedly impaired renal function and with a wider margin of safety.

Satterthwaite, Hill and Young(18), in their work on the use of sulfadiazine in urinary tract infections, found that with oral doses of five to seven grams a day the blood level varies from five to twenty mg. per cent. Blood level is higher and is maintained longer than with similar doses of other sulfonamide derivatives; moreover, the drug is absorbed into the spinal fluid. In their treatment of thirty-two cases of gonococcal urethritis with sulfadiazine checked regularly since disappearance of discharge 87.5% showed complete cure. Forty-four patients with urinary tract infections were given sulfadiazine therapy; it proved efficacious in vivo against proteus vulgaris, pseudomonas pyocyanea, escherichia, aerobacter, and also staphylococcus albus. In a series of sixty-four cases treated pre-operatively, or both pre- and post-operatively with sulfadiazine, there were no instances of respiratory complications and only a single transitory bacteremia. All these results have been obtained with a minimum of toxic reactions. Sulfadiazine, then offers great promise in the treatment of gonococcal urethritis, in the prevention or reducing postoperative complications in urologic patients, and in urinary tract infections of various types.

Sulfaguanidine (sulfanilyl guanidine) is one of the latest discoveries in the new sulfamido compounds. It is distinguished by low absorbability with a tendency to remain in the colon and exert its bacteriostatic influence therein. It must not be used as a substitute for sulfanilamide, sulfapyridine or sulfathiazole. Its indications are in the treatment of acute bacillary dysentery and as pre- and post-operative measures in surgery of the colon.

Failure to response, no matter which sulfonamide has been used, may be attributed to improper bacteriological diagnosis, poor, or noncooperation by the patient, and urinary stasis. Hydronephrosis with aberrant vessels, constrictions at the uretero-pelvic junction, sharp anatomical angles causing poor emptying of the pelvis, renal ptosis, organic strictures of the ureter and renal calculi are the causes of most failures and recurrences.

To summarize our comments on chemotherapy in genito-urinary tract infections, the following conclusions may be drawn: Urinary tract infections in which the urine appears to act as a culture medium for bacteria, and in which the offending organisms include B. coli, proteus, streptococcus faecalis and others, may be treated by mandelic acid, sulfanilamide or sulfathiazole. Mandelic acid often fails against proteus, and sulfanilamide is ineffective against streptococcus faecalis. Therefore, sulfathiazole has the broadest effectiveness. It has also a special effectiveness against staphylococcic infections and its rapid excretion in the urine makes for relatively high concentrations for a given dose.

Consequently in urinary tract infection our first choice is sulfathiazole, mandelic acid second, and sulfanilamide third. Sulfadiazine shows great promise and may displace any one of the three. The other sulfonamides are excreted too slowly in the urine. Correct bacteriological-urological diagnosis and close observation of the patient is stressed.

As to gonorrhea, one of the most vexing problems for the general practitioner and urologist to treat, sulfathiazole is first choice, sulfadiazine second, and sulfapyridine only as a third; sulfanilamide we regard as a rather poor fourth.

Urological surgery: First choice seems to be sulfathiazole, with sulfanilamide (local application) a close second; but the promising sulfadiazine may displace either of the two.

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TRACHOMA CAN BE TREATED EFFECTIVELY

Acute trachoma, a contagious granular inflammation of the membrane that lines the eyelids and covers the eyeball, can be treated so successfully that less than 1 per cent of the eyes infected will become industrially blind, Harry S. Gradle, M. D., Chicago, declares in The Journal of the American Medical Association for July 4 in a report on the visual results obtained in the trachoma clinics of southern Illinois. His report lists the results from treating two groups of patients in stages 1 and 2 of the disease, 328 eyes in one group being treated with sulfanilamide and 493 eyes in the other group being treated by other means.

"From the final visual standpoint," he says, "systematic treatment with sulfanilamide is preferable to purely local treatment because: (a) twice as many eyes show definite improvement in vision and (b) less than half as many eyes show positive losses in vision."

The Management of Labor in Contracted Pelvis*

RALPH LUIKART, M. D., F. A. C. S.

Proper management of labor with contracted pelvis requires the keenest judgment and necessitates the mustering of all resources available to a capable obstetrician. It is a serious situation for both the woman and fetus. Thorough prenatal care, which includes careful examination of the patient, will reveal evidence of disproportion, and that a labor with distocia is impending. The obstetrician realizing he is facing this possibility should emphasize to the patient the importance and necessity of meticulous compliance with proper prenatal advice. She can much better face the problems which may arise during labor, if she reaches term in good condition.

The diagnosis of a contracted pelvis should be discovered when measurements are being made during the first prenatal examination. Careful measurements with a pelvimeter and bimanual examination is obstetric art in the highest sense and should not be neglected. Such an examination educates the sense of touch, gives a mental conception of the size and shape of the pelvic cavity. Dr. Ed Schumann said, "Personally, I should prefer the opinion of a Hirst, DeLee or Williams as to the outcome of labor after simple bimanual examination, to the most careful set of figures obtained by pelvimetry with any instrument ever invented."

In my opinion the only pelvic measurements of importance, that can be made accurately, are the two outlet measurements, namely the post sagital and the bituberischial. Even with the aid of expert x-ray examination of inlet measurements the results cannot be universally relied upon. It is difficult to determine the all important pelvic inclination. Though the fetal head size may be determined, its mouldability does not always comply with the findings made by x-ray, because it is not possible to accurately determine the amount of ossification.

Let us review for a moment the Caldwell-Maloy morphological classification.

I.

The gynecoid type of female pelvis, characterized by the shape and liberal size of the inlet and the wide pubic arch.

II.

Android or male type with tendency toward funnel shape, characterized by the narrow pubic arch.

III.

Anthrapoid or ape type with the long antero-posterior diameters and flattening from side to side. Note the possible danger to the fetal head if internal rotation is attempted.

IV.

Finally, the platypelloid type, or the broad flat pelvis which fortunately is rare.

I will not attempt to discuss the many irregular pelves such as Naegele pelvis, rachitic pelvis, etc., because of their rarity and because of shortness of time.

The simplest gradation of contracted pelvis is as follows:

First degree (borderline) conj. vera 9 to 10.5 cm.

Second degree (relative) conj. vera 7 to 9 cm.

Third degree (extreme) conj. vera 7.5 or less.

We can immediately dispose of the management of the third degree group. Cesarean will be the procedure of choice. Here I am assuming of course that the fetus is alive. If it is dead a craniotomy should be done. But even a craniotomy cannot be done if the conjugata vera is below 5.5 cm.

The management of the relative and borderline group is the same, and may be considered under the same head.

At or near term the Leopold and Munro Kerr maneuvers* may greatly aid in determining whether the head will enter the inlet. If it is possible that the head will enter the inlet the birth canal delivery should be successful, providing the total of the bituberischial and post sagital measurements add up to 15 cm. or more. I prefer 16 cm. as the minimum.

If these outlet measurements are satisfactory, but the head cannot be brought into the inlet a trial labor, or test of labor, or trial engagement, whichever you choose, should be made. I prefer trial engagement. If good judgment is used this may be continued with reasonable safety so long as the pulse of the mother is below 100 and the fetal heart rate above one hundred, and both of good quality. During this period meticulous care must be given to asepsis and certainty that all comfort within safe limits is given the mother. Avoidance of dehydration is of great importance. I doubt the need of much nutrition during labor.

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*Read before Seventy-fourth Annual Convention, Nebraska State Medical Association, Omaha, May 7, 1942.

*This maneuver consists of firm pressure on the breech with intention of forcing the head through the inlet of the pelvis of the mother.

If time has been allowed for the head to mould and it still has not entered the brim, a low cesarean should be done without further delay.

If the head has become engaged and presentation is favorable, and the need of help is indicated by signs of exhaustion on the part of the mother or embarassment by the fetus, forceps is the procedure of choice, providing the soft parts permit. A mother's pulse rate of over 100 and/or a climbing, fetal heart rate of less than one hunderd per minute for three consecutive minutes, calls for the use of forceps. There should be complete dilatation of the cervix uteri, the bladder and rectum should be empty and the introitus permit the withdrawal of the closed fist. It is assumed, of course, that the pelvis is adequate, the membranes have been ruptured, adequate anesthesia has been obtained and asepsis is satisfactory, along with other ordinary facilities. If the presentation is unfavorable a podalic version is my choice.

In case of difficulty in extracting the aftercoming head, the use of the proper forceps will greatly facillitate the delivery and do less harm to the baby's head and neck.

I do not subscribe to symphysiotomy or even hebosteotomy.

If the presentation is a breech and the inlet size is questionably small or irregular, even though the outlet is satisfactory, I believe it may be necessary to resort to ceasarean earlier because it is impossible to ascertain the relation between the fetal head and inlet of the maternal pelvis. After all, the relationship between the fetal head and the maternal pelvis determines the outcome of the labor.

In conclusion, I wish to repeat for emphasis that there are only two pelvic measurements of importance, which universally can be made accurately; namely, the post sagittal and the bituberischial. Hence, there is no excuse for overlooking the outlet measurements.

Finally, inability to determine the size of the inlet measurement is not serious so long as the patient is properly cared for and she is not allowed to become exhausted during the test of labor.

Never procrastinate until the condition of the woman or the fetus is such that either one or both cannot safely withstand any necessary operative procedure.

* * *

CONTINUOUS CAUDAL ANESTHESIA IN OBSTETRICS

A new method for continuous or fractional caudal anesthesia has been developed by Edwards and Hingson (Am. J. Surg., 57:459, September, 1942). It appears to be remarkably effective and yet retains the complete cooperation of the patient. There has been uniform absence of delirium, narcosis, cyanosis, nausea, vomiting, and anoxemia, and no interference with uterine contractions. Every infant in the authors' series breathed spontaneously except one stillborn known to have been dead several days before delivery.

The technic consists in the injection of an initial dose of 30 cc. of 1½ per cent solution of "Metycaine" (Gamma-(2-methyl-piperidino)-propyl Benzoate Hydrochloride, Lilly), followed at thirty or forty-minute intervals with 20 cc. of the 1½ per cent solution. In every case there has been complete freedom of pain and discomfort of active labor within five minutes following the intial dose. Episiotomy and outlet forceps, and repair of the episiotomy has been without pain. The average duration of anesthesia has ranged from four and three-quarters to thirteen hours.

One patient described was having eclamptic convulsions when admitted, with blood pressure 220/110. After the initial dose of "Metycaine" was given, the pressure declined to 140/90 and the clinical picture improved remarkably. The anesthetic was continued throughout the day without a blood pressure exceeding 150. She delivered a healthy baby spontaneously thirteen hours after the initial dose.—Adv. Reader.

Hemorrhage—As a Complication of Labor*

W. C. KENNER, M. D.
Nebraska City, Nebraska

Obstetric hemorrhage, as an immediate cause of death in childbirth, ranks second both to puerperal infection and the toxemias of pregnancy. However, as a contributory cause of maternal death, it exacts an additional toll which is difficult to estimate, for many women who die of infection might not have acquired their infection if their resistance had not been impaired by loss of blood.

Obstetric hemorrhage, occurring early in pregnancy, is usually due to one of the types of abortion, to ectopic pregnancy, occasionally to hydatidiform mole, at times to certain cervical lesions, and very rarely to placenta praevia. Hemorrhage in the latter part of pregnancy, and especially the last trimester, may be due to placenta praevia, abruptio placenta, or, occurring during labor, to rupture of the uterus. Post partum hemorrhage may be due to uterine atomy, lacerations of the cervix or vaginal vault, or retention of placental tissue. Since this symposium has to do chiefly with the complications arising in the course of labor, I shall confine this discussion to the types of hemorrhage occurring in the last trimester of pregnancy—namely placenta praevia, abruptio placenta, and ruptured uterus.

PLACENTA PRAEVIA

Placenta praevia is a condition in which the placenta is implanted partly or wholly outside the active segment of the uterus—that is, in the dilating zone of the uterus. Its frequency has been reported by various authorities as occurring in from 1 in 200 to 1 in 1000 cases. Clinically placenta praevia seems to occur more frequently in cases of:

Previous inflammatory disease of the uterus; subinvolution following previous pregnancy; too frequently recurring pregnancies, and multiparity.

Mechanically it is the result of: Low implantation of the ovum; overgrowth of the placenta; abnormal development of the placenta with prolapse into the lower uterine segment.

There are several varieties of placenta praevia.

1. Simple low implantation with no encroachment by the dilated cervical os.

2. Marginal—the edge of the placenta lies at or near the edge of the internal os, overlapping less than half of it when fully dilated.

3. Partial or lateral—the edge of the placenta overlaps at least half, but not all, of the fully dilated os.

4. Centralis—the completely dilated internal os is completely covered by the placenta, and the edge of the latter is not palpable.

5. Cervicalis—the placenta is partially implanted on the wall of the cervical canal.

The most important symptom, and usually the only subjective symptom is painless uterine bleeding occurring in the last trimester of pregnancy. This may be in the form of repeated small hemorrhages, or there may be a sudden profuse hemorrhage. An initial fatal hemorrhage is rare. This allows for morphinization and transportation to a hospital by ambulance before proceeding with other diagnostic or therapeutic procedures. Always type for transfusion as soon as possible after suspecting placenta praevia, and before doing a vaginal examination. A vaginal examination is the only way of making a positive diagnosis of placenta praevia, but it may precipitate a severe hemorrhage. The vaginal examination should be done under aseptic precautions, and only one such examination should be made.

A rectal examination may also precipitate a hemorrhage and is unsatisfactory in the diagnosis of placenta praevia.

The following diagnostic signs are usually obtained by vaginal examination:

The cervix is usually soft and patulous; there is thickened, boggy tissue below the presenting part which is quite high; the edge of the placenta may be palpable inside the cervix.

The x-ray may be a help either through the use of soft tissue detail, or by the use of an opaque liquid injected into the bladder. This outlines an area of separation between the cupped bladder and the presenting part.

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*Read before Seventy-fourth Annual Session Nebraska State Medical Association, Omaha, May 7, 1942.

The type of treatment and the prognosis depend on the following conditions:

The stage of labor—especially the degree of dilation of the cervix; the character of the labor pains—if the patient is having pains; the stage of the pregnancy—especially as regards the viability of the foetus; feto-maternal relationship—as to disproportion, position, etc.; presence or absence of infection—either actual or potential; the skill of the obstetrician; the severity of the hemorrhage; the variety of the praevia.

INDICATIONS FOR INTERVENTION

Some authorities believe that the pregnancy should be terminated as soon as a diagnosis of placenta praevia is made, without regard to the welfare of the fetus. Cooke(1), believes pregnancy should be terminated in any or every case where the patient refuses continuous hospitalization and rest in bed. He feels that it is justifiable to attempt to carry a doubtfully viable fetus to a safer stage if there is no great blood loss and the patient is hospitalized. In severe hemorrhage the pregnancy should be terminated as soon as the patient can be made able to withstand the procedure. This is accomplished best through the use of blood transfusions. The cases of moderate hemorrhage are the hardest ones to decide on a course of treatment. However, a good rule is: If in doubt, terminate the pregnancy. Done properly, it gives the mother and baby the most protection.

RESUME OF TREATMENT

1. Never attempt to treat placenta praevia or suspected placenta praevia in the home. Always remove patient to a hospital as soon as morphinized and bleeding checks up somewhat. Emergency packing of the cervix and vaginal tract in the home is more dangerous to the mother than the difference in the blood loss warrants. Packed cases are always infected and the packing is rather ineffective in stopping the bleeding.

2. Type the patient's blood at once and be prepared for transfusion, using, preferably, whole blood, but if this is not available, blood plasma.

3. Don't do a vaginal examination until you are ready to carry out the therapeutic measures that are indicated by the findings of the vaginal examination.

a. If hemorrhage is slight and labor is in progress and is making good headway and with no disproportion, allow labor to proceed normally.

b. If marginal praevia and not too severe hemorrhage and no disproportion or malposition, rupture of the membranes may be sufficient.

c. If partial or lateral praevia with only moderate hemorrhage and no disproportion or malposition, rupture the membranes. If the hemorrhage is somewhat more severe you may either use an intra-ovular Vorhees bag, or apply Willitts forceps to the infant's scalp and apply gentle traction continuously. In this type you might do a Braxton Hicks version, but this is probably the most difficult procedure and most dangerous to both mother and babe.

d. The most valuable and probably the safest treatment for both mother and fetus in all central praevias and in the lateral and marginal praevias, if bleeding is severe, is Caesarian section—preferably the low cervical section. This method of treatment limits the blood loss at delivery to a minimum and lessens the possibility of additional hemorrhage from a torn cervix or vaginal vault due to too rapid attempts to deliver the foetus from below.

e. Cases which are infected—either actually or potentially—are probably best treated by delivery from below if bleeding is not too severe and there is no disproportion. If bleeding necessitates rapid delivery or there is disproportion, do a Porro section which combines hysterectomy with the section.

ABRUPTIO OR ABLATIO PLACENTA

Abruptio or ablatio placenta is the premature separation of a normally implanted placenta. It occurs about once in 500 deliveries. The etiology is unknown, except in definitely traumatic cases, which are very rare. Other possible factors involved are:

Structural weakness of the decidua or villi—probably due to inflammatory or degenerative changes at the utero-placental site; fibromyomata at the placental site; cardio-renal-vascular disease and avitaminosis. There may be aspecific toxin elaborated in cases of systemic disease or the toxemias of pregnancy. Hofbauer has produced in animals, the exact pathological and clinical picture of abruptio placenta by the injection of histamine—which is found normally in the intestine as an indirect derivative of histidine, a substance resulting from the digestion of protein foods.

The pathologic history of premature separation may be outlined as follows:

There is first a diapedesis through the walls of the terminal maternal areolar capillaries into the substance of the decidua basalis. Then a rhexis of those terminal vessels creating a hematoma which becomes progressively larger as it is exposed to increased pressure through the rupture of more and larger vessels. There may be a tearing of the decidua by the spreading hematoma and even tissue hemorrhage in the subjacent myometrium, which may be so marked as to cause cleaveage of the uterine wall with serious damage to, and even disintegration of, the myometrial structure. The resulting extravasated blood may penetrate the entire thickness of the myometrium and form a subserous hematoma and, on occasion, may rupture and result in an intraperitoneal hemorrhage. This extravasation into the myometrium, if marked, is known as uteroplacental apoplexy (couvelaire). It is especially serious in that it interferes with the contractions of the uterine musculature and so limits the hemostatic as well as the expulsive effects of the contractions.

As the subplacental hematoma spreads it may be confined to the limits of the placenta, or cleave the membranes almost wholly away from the uterine wall with varying degrees of separation of the placenta. Occasionally it may rupture the membranes with hemorrhage into the amnionic cavity or cleave away the membranes down to the internal os, through which the blood escapes into the vagina.

The first three varieties are known as concealed hemorrhage; the fourth as external hemorrhage. It is the cases in which external hemorrhage occurs early that usually have the most favorable prognosis because the pressure within the cleavage cavity is lessened and the tearing process is slowed; the condition is recognized earlier and treatment instituted more promptly than in concealed varieties.

The symptoms vary principally with the severity of the hemorrhage, and of course in respect to whether the bleeding is external or concealed. The onset is usually sudden. Pain is a very constant early symptom and is usually at first quite definitely limited to the site of the hemorrhage. It is not cramplike in character but persists acutely as long as the hemorrhage continues. Later the pain becomes diffuse across the lower abdomen, back, and thighs. The pain may let up considerably in severe cases when the effects of hemorrhage and shock intervene. Shock is an early symptom and is out of proportion to the apparent blood loss. In external hemorrhage the flow of blood is usually continuous—a little more profuse between pains, and checking up toward the end of a contraction. In concealed hemorrhage there is early prostration, pallor, dyspnoea or even actual air hunger. There may be a gradual increase in the size of the uterus. The uterus is very tender. Foetal distress is another constant symptom, especially later in the course of the condition. There may be a diminution or even a cessation of fetal movements. If this occurs after a period of violent fetal activity it usually means the death of the fetus. A marked or progressive increase or decrease of the fetal heart rate is an evidence of fetal distress and may be followed by complete loss of fetal heart tones. Loss of fetal heart tones not preceded by marked decrease or increase in rate may be due to poor transmission through the indurated uterine wall.

DIAGNOSIS

Diagnosis is made from the history of a sudden onset of severe uterine pain with tonic contraction of the uterus. The pain is persistent and the uterine wall is very tender—especially in the area where the separation has occurred. In utero-placental apoplexy there is boardlike hardness of the uterine wall. When the hemorrhage is concealed and reaches extreme proportions, there may be a definite increase in the size of the uterus. If the hemorrhage is external, the bleeding is continuous, usually more profuse between pains, with a gush at the onset of the contraction and diminishing or nearly ceasing during the latter part of the contraction. There is early evidence of maternal shock and definite evidence of fetal distress or death.

TREATMENT

First provide compatible donors. Have several ready, as in severe cases, repeated transfusion may be necessary.

Mild cases before the 36th week may be

treated with rest in bed and sedatives—giving enough to control the pain and uterine irritability. Lipo Lutein may be useful and vitamins C and E may be of some value. These patients must be watched closely. Frequent blood pressure readings and blood counts are important aids in detecting a concealed hemorrhage.

After the 36th week allow labor to proceed without interference or sedation but remember that the mild nature of the condition may be deceptive.

In serious cases at any stage of pregnancy or labor, the pregnancy should be terminated promptly in the interests of both mother and fetus. Treat the shock with transfusion before or during treatment or both. If the cervix is dilated or dilatable, and there is no disproportion between maternal passages and foetus, deliver promptly by forceps or version.

If the cervix is not dilated or is dilated but there is disproportion between the maternal passages and the foetus, a caesarian section is indicated. If at the time of operation, the uterine wall is grossly infiltrated, a hysterectomy may be necessary.

All cases should be hospitalized. If this is impossible and the usual treatment cannot be given, the use of a tight vaginal packing plus compression of the uterus by a wide and very tight abdominal binder may control the hemorrhage until the cervix is dilated and delivery from below can be effected. If this is successful pituitrin may be injected directly into the lower uterine wall immediately following delivery. After delivery of the placenta control the hemorrhage by packing if necessary. This procedure almost always results in infection but there is less danger from infection than from uncontrolled hemorrhage. The use of sulfanilamide packing, as advocated by Anderson(2), and accompanied by sulfadiazine or sulfathiazole by mouth, may reduce the incidence of postpartum infection greatly.

PROGNOSIS

A maternal mortality of 10% and a fetal mortality of 40% in cases conducted under ideal circumstances is considered satisfactory by Cooke of Galveston. In severe cases the prognosis is much worse. Without hospitalization and without competent assistance, the saving of either mother or baby in severe cases is seldom to be expected.

Rupture of the uterus is fortunately not very common—occurring only once in 1,000 to 6,000 cases. However, Eastman(3) believes that rupture of the uterus is a more common cause of maternal death than is ordinarily believed. He feels that quite a few of the deaths charged to post partum hemorrhage are actually cases of ruptured uterus. This condition can be briefly divided into rupture of the cervix and rupture of the uterine body. Rupture through caesarian section scars form the largest percentage of cases occurring in the body of the uterus. Spontaneous tears of the body—aside from those due to weak caesarian scars—are usually due to prolonged ineffectual labor which is not given relief. Another important cause is the ill advised use of pituitrin before the end of the second stage of labor. Occasionally rupture of the uterus may result from attempted external version.

Cervical laceration is indicated by free postpartum hemorrhage even though the uterus is firmly contracted. This condition is treated by suturing the laceration, or if necessary, by packing.

Impending rupture of the uterine wall should be suspected if there are prolonged severe uterine contractions with a tonic uterine wall—especially following long, hard, ineffective labor. The ascent of Bandl's ring commonly precedes actual rupture of the uterine body. Abrupt cessation of contractions, accompanied by severe pain and symptoms of shock and hemorrhage, is usually indicative of actual rupture of the uterine wall. At times the foetus may be palpated outside the body of the uterus.

The treatment consists first of the treatment of shock—especially the use of blood transfusions. When the patient's condition permits, a caesarian section should be done—with or without hysterectomy as conditions dictate. Both version and forceps are dangerous procedures in these cases and normal delivery is impossible.

If threatened uterine rupture is recognized, anesthesia deep enough to relax the contractions should be given at once and continued as necessary to control the pains, while preparations are made for immediate delivery.

Prophylactic treatment is the most important consideration in uterine rupture. If two rules are adopted the incidence of rupture of the body of the uterus will be reduced to a great degree.

1. Never use pituitrin during labor before the cervix is fully dilated, and if there is any condition preventing the free passage of the foetus through the birth canal.

2. Never allow an individual who has had a previous section to go into labor—always deliver her by another section.

This last statement is contrary to the opinion of many authorities, but the high incidence of rupture of the old uterine scar makes the risk of labor much greater than the risk involved in an optional section.

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* * *

To The Medical Profession of Nebraska

Reports in the State press and the outline as published in the Journal concerning the M. C. H. program for wives and dependents of men in the armed forces may have been misleading. The following facts are important and should be considered **carefully** when an application for State aid to this group is contemplated.

1. Funds for this care are **limited.**

2. Present applications for aid, on hand at the State Department of Health will exhaust available funds by the first of the year.

3. Although application for more funds has been made, there is no certainty that these funds will become available.

4. This program was not planned to provide for the dependents of all of the men in the armed forces, but rather to take care of those occasional cases wherein the applicant is absolutely without funds.

i. e. Immediate family aid is impossible to obtain, government allotment has been delayed or is unobtainable or there is a definite question of legitimacy.

5. The State Department of Health has neither methods nor means to investigate the authenticity of claims presented.

SUGGESTIONS—

1. Do not certify an applicant for State M. C. H. aid unless you are sure that there are not available local or personal funds.

2. Attempts should be made to secure family help for medical or hospital bills.

3. If we cooperate in the conservation of these funds, actual cases of need throughout the state can be cared for and both physicians and hospitals will benefit.

H. S. Morgan, M. D.,
Chairman, M. C. H. Com.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

DUES ARE DUE JANUARY FIRST

The annual dues become due January 1. In order to retain those physicians who are now serving with our armed forces as members, the House of Delegates of the Nebraska State Medical Association voted at the last annual session in Omaha, to increase the annual dues of the Association from $10 to $15. The delegates felt, and justly so, that those who remain at home will cheerfully tax themselves in favor of their fellows who have left their homes and their practices to serve the Nation.

The remark is sometimes heard that rather than increase the dues the Association could perhaps cut expenses. The answer is obvious. In view of present conditions locally and with problems arising constantly out of chaotic social conditions it would be most impractical to reduce necessary activities in time of emergency. It takes money to run an organization.

It is sincerely hoped that members will forward their dues promptly this year and thus assist the Executive Office in conservation of time and expense involved in writing letters requesting remittances. Secretaries of local County Societies will be especially appreciative of such cooperation.

THE FUTURE OF MEDICINE IS AT STAKE

On another page of this issue of the Journal is a partial reproduction of a special post-election bulletin issued by the National Physicians Committee for the Extension of Medical service, worthy of the attention of every thinking physician. It is unfortunate but nevertheless true that comparatively few of us appreciate the lamentable predicament in which Medicine now finds itself, standing as it does, indicted of "criminal conspiracy to restrain trade," in defiance of the Sherman anti-trust law. There is some consolation in the fact that the case is now in the process of review in the supreme court, but to quote Judge Miller who previously rendered the decision " . . . . it will be necessary for the legislature to speak upon the subject rather than for the courts to recognize a privilege based upon preempton or usurpation."

The significance of our present status is far deeper than appears on the surface. Should the decision remain operative the whole atmosphere of freedom to maintain standards of medical ethics and education is in grave danger of deteriorating under the edict of the present law.

There are ominous possibilities which the individual members of the profession cannot ignore with impunity. From all corners of the word comes the herald of a "new order" following the war. What this new order will be few even dare guess. It would be pathetic if Medicine and those who follow its calling were to be subjected under order of the courts to accept the changes without protest, under threat of indictment.

The Physicians Committee is making a conscientious effort to preserve the freedom and the dignity of Medicine in America. Through a program of public education on the problems of the medical profession it aims to create an active demand on the part of the people of this country against political interference with a group which has proved capable of self discipline and at the same time of serving the country admirably under prosperity or stress. The work of this Committee was approved by the House of Delegates at the Annual Session in Atlantic City in June.

No fair-minded physician with a desire for professional freedom can pass up the opportunity of participating in this urgent task.

VIRUS PNEUMONIA

In 1934 Galagher⁽¹⁾ described a bronchopneumonic process in young adolescents which differed in many respects from the usual types of pneumonia of known bacterial origin. This report apparently served as an incentive to clinicians and laboratory workers alike, and in the last few years many papers have appeared in the literature mostly on cases studied at the bedside. Necropsy reports are scarce because the disease is seldom fatal. Unfortunately there seemed to be no unanimity on nomenclature, a condition which tended to confuse rather than enlighten the practicing physician. Thus one author described it as "An Epidemic of Pneumonia of Unknown Etiology;" another, "An Epidemic of Apparent Influenza;" a third, "Acute Pneumonitis," etc.,—all obviously dealing with the same clinical syndrome. "Dry inflammation of parts or all of the mucosa of the respiratory tract; chills or chilliness; slowly rising fever lasting one to three weeks and falling by lysis; delayed signs of migratory pneumonia, often bilateral; unproductive cough; headache; photophobia; a normal leucocyte count. Complications are rare and the mortality rate is practically nill."(2)

In view of the epidemologic nature of the disease and the inability of competent investigators to isolate the causative organism, it is logical to attribute the syndrome to a virus as the etiological factor. Thus the term "virus pneumonia" was justly proposed by Reiman in 1938.(3) The recent literature on the subject is rich in comparisons of this syndrome with those of now recognized, though still obscure, viral diseases affecting the lungs, notably psittacosis, ornithosis, influenzal pneumonia, lymphocytic choriomeningitis, etc.

Though the designation "virus pneumonia" adds but little toward the clarification of the true origin of the disease, it may alleviate to some extent the difficulty of following the literature on the subject more intelligibly than was possible when an author described a series of cases of "typical atypical pneumonia."

1. Yale J. Biol. and Med. Res., Vol. 9, p. 23, 1934.

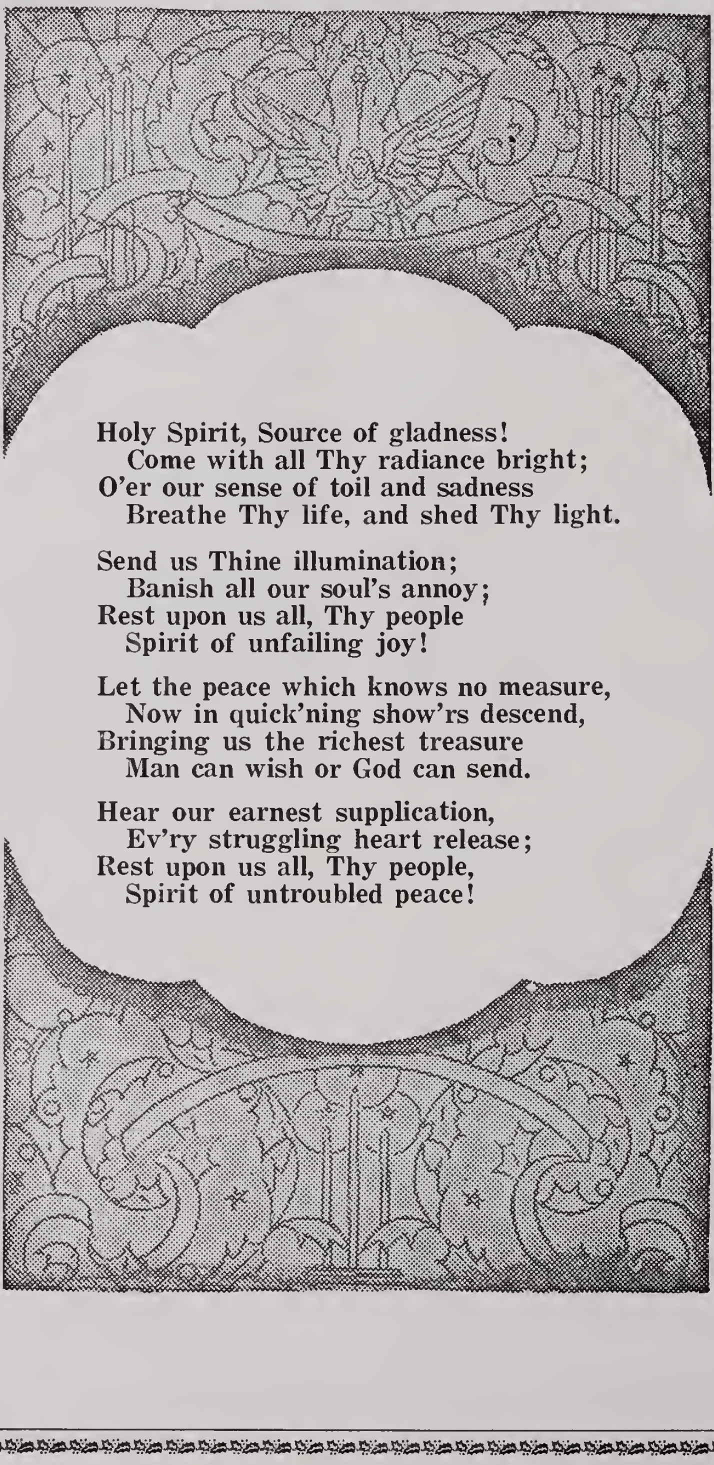
2. Hobart A. R~~a~~eimann; W. P. Havens and Alison H. Price: Arch. Int. Med., Vol. 70, p. 513, (October), 1942.

3. J. A. M. A., 111:2372 (Dec. 24), 1938.

CORRECTION

In the article on "Medical and Hospital Obstetric and Pediatric Care for Wives and Infants of Men in Military Service" appearing in the November issue, under the term "Emergency Cases" it should read, "The physician will then immediately mail the completed application to R. H. Loder, M. D., etc." and not "The Division office will then immediately mail, etc."

Christmas



Holy Spirit, Source of gladness!
  Come with all Thy radiance bright;
O'er our sense of toil and sadness
  Breathe Thy life, and shed Thy light.

Send us Thine illumination;
  Banish all our soul's annoy;
Rest upon us all, Thy people
  Spirit of unfailing joy!

Let the peace which knows no measure,
  Now in quick'ning show'rs descend,
Bringing us the richest treasure
  Man can wish or God can send.

Hear our earnest supplication,
  Ev'ry struggling heart release;
Rest upon us all, Thy people,
  Spirit of untroubled peace!

NEWS and VIEWS

Dr. Claude Selby of North Platte, former president of the Nebraska State Medical Association has assumed the directorship of the State Health Department November 1.

Dr. Walter Judd, a graduate of the University of Nebraska Medical College in 1923 was elected to Congress representing the Minneapolis area in Minnesota. Congratulations are due both to the new congressman and to the people of the district on their wise choice.

Dr. A. L. Miller, former president of the Nebraska State Medical Association, and until recently Director of the State Health Department, is now congressman-elect from the Fourth District. We expect to hear from both these Cornhuskers. They have something to say, and they know how to say it.

The ratio of one physician to 1500 people seems ominous to some. Yet according to available information the British people get along rather well on a ratio of one physician to 2,700; and in Germany the proportion is as one to 12,000. Our national ratio in peace time is one to 700.

A. M. A. Sessions Cancelled

The American Medical Association has cancelled its annual session for the coming year. This is the first time since the Civil War that such action has been taken by the Board of Trustees. According to the announcement the House of Delegates and the Board of Trustees will convene in Chicago June 7, 1943, to discuss organizational matter, but there will be scientific sessions.

The following editorials are reprinted for their interest. From the Beatrice Sun, November 3:

> Whenever people are asked to give up some benefit, comfort or satisfaction so that the armed forces may be fully supplied, they respond willingly. But they sometimes ask whether their sacrifices are necessary, and their asking does not imply a lack of patriotic spirit.
>
> Such questions are being asked right now with reference to the shortage of physicians in many communities. Hyde Sweet quotes a doctor acquaintance now in the army who says he has done no doctoring in the many months of his connection with the military establishment and has spent his time swimming in a gorgeous Texas pool, playing tennis, etc.
>
> The armed forces will need many more doctors as the fighting becomes intense, and civilians will do the best they can. But it scarcely seems wise and prudent to leave communities physicianless so long as the mobilized doctors are not employed in the work they are trained to do.

And from the Falls City Journal of November 11:

> Rulo is without a doctor. The war and conditions arising from it caused Dr. Wm. Shepherd to move to Falls City where, again the war, caused vacancies in the normal complement of doctors. When the Rulo people first heard that their doctor was going to leave, some of them were startled and deeply worried. What were they to do? We ordinarily don't think about doctors. They're sort of like the fire department, the air we breathe or the water or electricity which comes at the simplest motion of our hand. We take them pretty much for granted—just like the Rulo people did until they found out that their doctor was moving away. The doctor is a pretty essential fellow in our community. We realize it only when we think of trying to get along without him.

Dr. Udo J. Wile, Professor of Dermatology and Syphilology in the School of Medicine, University of Michigan, has been commissioned Medical Director (R) in the U. S. Public Health Service for active duty with the Division of Venereal Disease Control, Surgeon General Thomas Parran announced recently.

Dr. Wile will conduct a study of all new methods described in recent years by various clinicians for the intensive treatment of syphilis.

He will also supervise the quarantine hospitals which the Public Health Service and the states are developing in a number of critical war areas. These hospitals are for the treatment of prostitutes and recalcitrant persons who are infected with syphilis and who are capable of spreading the disease. Through quarantine and intensive treatment of infectious cases under controlled conditions, it is expected that the most effective and economical methods for the clinical management of syphilis will be demonstrated and their prompt adoption insured.

The hospitals will be staffed by physicians, nurses, and record analysts of the Public Health Service, who will be given special training in rapid therapy under the supervision of Dr. Wile. The first training course will begin in November, with headquarters at Ann Arbor.

Some 20 physicians, 60 nurses, and 20 record analysts are expected to report for training in the first class.

OFFICE OF CIVILIAN DEFENSE

Civilian Defense—Emergency Base Hospitals

The Medical Division of the U. S. Office of Civilian Defense, through its Regional Medical Officers and State Chiefs of Emergency Medical Service, has now made emergency provision for the establishment of a chain of Emergency Base Hospitals in the interior of all the coastal states. They will be activated only in the event of an enemy attack upon our coast which necessitates the evacuation of coastal hospitals. Each base hospital will be related to the casualty receiving hospital which has been evacuated and it is expected that the staff will be recruited largely from the parent institution.

In order to meet a sudden and unexpected crisis without delay, arrangements have been completed with state authorities for the prompt taking over of appropriate institutions in the interior of the state for this purpose and with local military establishments for the transportation of casualties and other hospitalized persons along appropriate lines of evacuation.

More than 150 hospitals in the coastal cities are in the process of organizing small affiliated units of physicians and surgeons, which will be prepared to staff the Emergency Base Hospitals if they should be needed. These units are composed of the older members of the staff and those with physical disabilities which render them ineligible for military service, and of women physicians. In order that a balanced professional team may be immediately available the doctors comprising units are being commissioned in the inactive Reserve of the U. S. Public Health Service so that, if called to duty, they may receive the rank, pay and allowances equivalent to that of an officer in the armed forces.

Dr. George Baehr, Chief Medical Officer of the U. S. Office of Civilian Defense, states that the members of these affiliated hospital units will continue to remain on an inactive status for the duration of the war unless a serious enemy attack occurs in their region which necessitates the transfer of casualties to protected sites in the interior. Their commissions may be terminated upon their request six months after the end of the war, or sooner if approved by the Surgeon General. Such approval will be given in the event such officer desires active duty in the Army or Navy.

RED CROSS BLOOD DONOR SERVICE RECEIVES ARMY-NAVY "E"

The Army-Navy "E" has been awarded the American Red Cross Blood Donor Service in recognition of its achievement in collecting blood for the nation's armed forces. Presentation of this coveted award occurred September 15 at impressive ceremonies on the steps of Red Cross National Headquarters in Washington.

Accepting the pennant, Red Cross Chairman Norman H. Davis dedicated it to the thousands of men and women whose donations enabled the Red Cross to provide a total of 461,493 pints of blood by June 30 last. This number was 81,493 pints more than had been requested for delivery at that time.

Although the award was presented officially by Major General James C. Magee and Rear Admiral Ross T. McIntire, Surgeons General of the Army and Navy, as well as other important officials, actual presentation of the penant was made by Samuel Kurtz, torpedoman who lost both legs when the U. S. S. Kearny was torpedoed the night of October 16, 1941. Torpedoman Kurtz received 12 transfusions, three of them with plasma that was flown from shore by a Navy patrol plane, as the Kearny did not have any aboard. In all probability, these transfusions saved Kurtz's life.

THE CONGRESSIONAL ELECTIONS*

It is estimated that more than three hundred congressional candidates—elected on Nov. 3, 1942—publicly and unqualifiedly pledged themselves, through "Statements of Opinion,"to preserve the independence of the medical profession and our system of distributing medical care.

THE MEANING OF THE RESULTS

The people have spoken. In decisive, unquestionable terms they have given evidence of their deep concern and their rising wrath. They have given a clear-cut, unmistakable mandate, for the duration, to:

Adjourn the jockeying for political place and power; cease the special privileges to pampered groups; abandon the untried, far-reaching schemes for so-called social reforms—to the end that all resources and efforts can be concentrated on the grim and dangerous task of winning a war.

The election of forty-two additional Republican Congressmen and eight additional Republican Senators is of far less importance than the realization that the people have demanded a return to constitutional government. Every member of Congress—Democrat and Republican—has felt the impact of this whip-lash decision.

MEANING IN TERMS OF THE MEDICAL PROFESSION

For four long, action-packed years the independence of the medical profession has been dangerously threatened. Our entire system of distributing medical care has been in jeopardy. Now—if medicine is active and on the alert—the plans to foist Federal compulsory, nation-wide health insurance on the American public can be thwarted. A reprieve has been granted. It will make possible the extension and development of plans and of methods that will insure the best of medical care to all the people and continued progress for independent medical practice in the United States.

WHAT HAS BEEN MEDICINE'S PART?

For nearly four years, independent groups of physicians in every state have devoted themselves to the task of clarifying medical and health issues and reducing them to understandable terms. For more than three years, under the auspices of the National Physicians Committee for E. M. S., all available media continuously, methodically have been used to acquaint legislators and the general public with "whys" of American Medicine's excellence and the reasons for its superiority—its world leadership. Many physicians have been unable to understand the importance of these activities. To many, the results, as reported herein, will appear starting—almost incredible.

THE COURT DECISIONS

On June 16, 1942, the D. C. Court of Appeals handed down a decision—confirming decisions of lower courts—holding that the practice of medicine is "trade and commerce" and that professional controls were "criminal restraints of trade."

Under these conditions it was obvious that if a professional status for physicians was to be preserved and the interests of the public, in matters pertaining to medicine and health, were to be safeguarded, new Federal legislation was essential.

A new Congress—four hundred thirty-five Congressmen and thirty-six Senators—was to be elected on November 3rd.

THE APPEAL FOR VOLUNTEERS

In July, the National Physicians Committee asked for volunteers to establish Professional Committees to interview congressional candidates prior to November 3rd. These committees were to ask for "Statements of Opinion" on professional and medical issues. Five questions were propounded to form the basis of the interviews. They were:

1. Do you favor exempting the professions from the provisions of the anti-trust laws?

2. Do you favor the enactment of legislation which will provide for the physicians as a professional group a definite status and the obligation to maintain standards designed to protect the public in matters pertaining to health?

3. Do you favor payroll tax deductions—Federal Compulsory Insurance — to provide for hospital and/or medical care costs in the United States?

4. Do you favor entrusting to the medical profession the responsibility for preserving, extending and further improving our system of medical service in the United States?

5. Do you favor any restrictions or limitations on the choice of physician by any individual seeking the services of a doctor?

THE RESPONSE

More than two thousand individual physicians and officers of scores of local medical societies volunteered co-operation. These were from 48 states, and 412 congressional districts.

THE OBJECTIVES

In seeking interviews with candidates there were three objectives:

1. To explain the nature and meaning of the Federal Court decisions;

2. To explain medicine's point of view in connection with medical and health issues including Compulsory Health Insurance;

3. To secure from candidates, where possible, "Statements of Opinion" on the issues and assurances of support for essential legislation.

PRELIMINARY REPORT ON RESULTS

On the basis of incomplete returns, it is estimated that, before November 3rd, individual physicians, committees of physicians, committees of physicians and other professional men, contacted in person or by letter with explanatory literature more than—800 candidates in more than 390 congressional districts.

NATURE OF REPORTS

Reports vary greatly. In some instances candidates gave verbal assurance of understanding and sympathy to individual physicians or by letter to individual physicians or to physician groups. More than one hundred candidates signed "Statements of Opinion" questionnaires — many signed questionnaires and added supplementary comment.

Of forty Congressmen elected from Districts 1 to 10 in Illinois; Districts 1 to 10 in New Jersey; and Districts 1 to 20 in New York, twenty-two (12 Democrats and 10 Republicans) signed "Statements of Opinion" as follows:

	Yes	No
Exemption of professions from anti-trust laws?	22	
Legislation establishing status for professions?	21	1
Federal compulsory health insurance?		20
Physician responsibility for medical care?	22	
Restriction on choice of physician?		21

From this sampling it can be estimated that in the 78th Congress there will be a safe majority favoring what may be termed "the physician point of view."

However, this does not provide an accurate appraisal. On the basis of such information, plus reports of personal interviews, letters from Congressmen to physicians and to physicians and professional groups, it can be deduced that, in the 78th congress, there will be more than 300 hundred congressmen out of four hundred and thirty-five who have publicly pledged themselves:

To preserve professional status for physicians;

As unalterably opposed to complsory health insurance;

To avoid—at any cost—the sacrificing of the sacred doctor-patient relationship.

CHIEF OF GASOLINE RATIONING APPEALS TO PHYSICIANS OF U. S.

An open letter to all physicians of the United States from the chief of the Gasoline Rationing Branch, Office of Price Administration, concerning the vital role they will play in the rationing of gasoline and tires, is published in the Medicine and the War section of The Journal of the American Medical Association for October 31.

The letter is as follows:

"In the East Coast Gasoline Rationing program, made necessary by the shortage of transportation facilities for petroleum products, the indispensability of your profession was recognized by its inclusion in the categories of persons eligible for preferred mileage, that is, necessary occupational mileage in excess of 470 miles a month. Now the Office of Price Administration has been ordered by Mr. William Jeffers to institute and administer a nationwide mileage rationing program for the express purpose of conserving our rubber-borne transportation. In framing the regulations for the new program, your profession was one of the first to be provided for.

"If we are to carry out our double task of preventing a collapse of our military and civilian transportation, we must have the complete cooperation of those groups of persons whose driving is deemed essential to the war effort. Our immediate aim is to attain the 5,000 mile national mileage average set by the Baruch Report as the maximum possible in light of the dire rubber shortage. Our experience with the East Coast program tells us that the preferred categories use one half of the gasoline consumed, though they constitute less than one fourth of the total number of automobile operators. Clearly, then, the great savings of rubber on a nationwide scale must be made in the preferred categories.

"Under the regulations, governing the mileage rationing program, physicians are eligible for preferred mileage if their essential occupational needs exceed 470 miles a month and if the mileage is needed for regularly rendering necessary professional services. Mileage traveled daily or periodically between home or lodging and a fixed place of work is not considered preferred. Physicians who conduct their practices in offices, as many specialists do, are not eligible for preferred mileage.

"Without question or hesitation, doctors have been and will be granted all the gasoline needed to carry out their professional work. We hope that they will regard their concrete symbol of their indispensability, the C book, as a moral obligation and not as a personal privilege. From another point of view, the C book is part of a doctor's equipment; it should not be used for anything but the work of humanity.

"When nationwide gasoline rationing begins, there are certain concrete things a doctor can do to live up to the high ethical standards set for him by his own profession:

"1. At the time of first issuance of rations, he can so carefully compute his necessary mileage as to make a B book adequate for his purposes though he might easily make out a case for a C book, which might be granted to him without question by his local War Price and Rationing Board eager to provide for physicians.

"2. In the computations of his mileage, he can religiously adhere to the provision of the regulations, which makes 150 miles of his basic ration available for occupational purposes. Moreover, he can help mightily in establishing the principles that only 90 miles of the basic ration are to be used for home necessary use and that there is no provision whatever in any ration for 'pleasure driving.'

"3. Conversely, if he should be granted a C book, he can return to the local board, at the end of the three months period, all unused coupons accruing to him as a result of a quite natural overestimation of needs or overgenerous 'tailoring' by his board, instead of using such coupons for nonessential purposes. The moral effect of such an act on his fellow citizens will be incalculable.

"4. He can set an example by scrupulously observing the 35 mile speed limit, except in cases of emergency, in spite of the fact that doctors could easily 'get away with it.'

"5. Should he be assigned to a hospital, clinic or institution after a ration card for calling on his private practice has been issued, he can use public means of transportation at the price of personal inconvenience.

"6. He can refrain from any kind of driving whatever which might appear to be nonessential in the eyes of the public.

"Doctors are the leaders and molders of public opinion in their communities. If the average man has any reason to believe that the professional men whom he regards with great respect are indifferent or hostile to the mileage rationing program, it will be difficult, if not impossible, to make it effective. Conversely, if doctors as a group observe the letter and spirit of the regulations, they will be a powerful force in making this absolutely mandatory war measure serve its purpose. We know that we can rely on the support of your profession, which has demonstrated its patriotism, ability and unselfishness at every opportunity.

"JOHN R. RICHARDS,
"Chief Gasoline Ration Branch,
Office of Price Administration."

Commenting on Mr. Richards' letter, The Journal says that "It calls on the medical profession not only to comply fully with the actual stipulations relative to the rationing of gasoline and tires but also to go beyond such limitations into the spirit of the effort which is so intimately concerned with the winning of the war. Doctors should adhere religiously to the provisions of the regulations and should set an example to all other persons in the community by the economy with which they use these materials. When Mr. John R. Richards says that doctors are the leaders and molders of public opinion in their communities, he recognizes the dependence of the public on medical leadership in all matters concerned with health. Already such recognition has come from the director of the Fuel Rationing Division. Physicians are authorized to certify invalids, old people and infants for extra fuel oil. Mr. Joel Dean, director of this division, points out that the rationing boards will naturaly rely largely on physicians' certification. He says 'If these auxiliary rations are granted with unjustified liberality, the effectiveness of the entire effort to distribute this scarce commodity equitably and to assure continuance of oil for industrial processes in war plants will be jeopardized. I am sure that the medical profession, when it realizes the seriousness of this additional responsibility, will discharge it conscientiously and patriotically.' The patriotism of the medical profession has never been questioned. In this great war physicians have demonstrated their support by their magnificent enlistment in the armed forces and by assuming innumerable obligations in relationship to the control of civilian life. Let us, by the manner in which we aid in the programs for the rationing of fuel, gasoline and tires, demonstrate again to the people of America that confidence in and dependence on the medical profession is well warranted."

"The directing board of the Procurement and Assignment Service is pleased to announce that 95 percent of the 1942 procurement objective of medical officers for the armed forces has already been met," members of the board announce in a statement published in the October 31 issue of The Journal of the American Medical Association. "Toward this total," the statement continues, "a number of states have supplied more than their share of physicians and only a few states are lagging behind in their quotas. It is from these states that the additional physicians needed during the current year should come.

"The recruitment of such a large number of physicians in a few months is a remarkable achievement and another demonstration of the traditional patriotism and unselfishness of the medical profession. In this achievement, and particularly in those of its members who are 'in service,' the profession can justifiably take pride.

"The end, of course, is not yet. Increases in the armed forces will necessitate more medical officers, and additional demands will be made on the profession for medical services in critical war production areas. The directing board is convinced, however, that the physicians of this country will respond to future calls for service, whatever they may be, in the same splendid manner with which they have already volunteered for service with the armed forces.

Frank H. Lahey, M.D.
Harold S. Diehl, M.D.
Harvey B. Stone, M.D.
James E. Paullin, M.D.
C. Willard Camalier, D.D.S."

THE FIFTH ANNUAL FORUM ON ALLERGY

This international post-graduate society will meet in the Hotel Statler in Cleveland, Ohio, the weekend of January 9th and 10th, 1943. This Forum will offer in most intensive presentation both the new and the old in Allergy. The meeting will be characterized by its use of all the various types of instruction. Formal lectures, special talks, dry clinics, study groups, moving pictures, Kodachromes, panel discussions, ending with an "Information on Allergy, Pease," will all be used to teach the physicians of the United States and Canada. Not only will specialists in this new field of Internal Medicine gather but also those whose interests are in allied fields of medicine will be welcome, for in war time every physician is called upon to advise and treat allergic patients. This is especially true of those in Internal Medicine, Diseases of Children, Diseases of the Skin, Diseases of the Eye, Diseases of the Nose and Throat, as well as those engaged in basic research in Immunology. A course in Immunology as it applies to Allergy will be given the week before by Dr. Eckers to a limited number of physicians and associates. Any physician interested in either or both of the foregoing is invited to write Dr. Jonathan Forman, 956 Bryden Road, Columbus, Ohio, for copies of the printed program and registration blanks.

Among the 58 Allergists participating in the program are most of the leaders in this field. Arthur Coca, M. D., of New York will receive the Forum's gold medal for outstanding contributions and will give the annual Forum lecture on Sunday afternoon.

STATE DEPARTMENT OF HEALTH
Division of Vital Statistics

By GRACE FREIDELL
Assistant State Registrar

The Division of Vital Statistics has been one of the most active divisions in the State Department of Health for the past eighteen months. One might well compare these activities to a "volcanic eruption," occasioned by the increased demands for birth certificates, mainly, to prove beyond a doubt the priceless fact of American citizenship. The personnel grew in 1941 from eight to fifty-five, and after the attack on Pearl Harbor, it was necessary to increase the personnel up to 103 during the first four months of this year. It took three shifts working "around the clock" to meet the situation. For about five months the mail flowed in at the rate of from 1,200 to 1,874 requests daily. At the time of this writing from 600 to 800 pieces of mail are being received daily.

For about eight months, this division issued between 18,000 and 23,000 certificates a month. This was accomplished by the work of many file searchers, and the use of a fine photostat machine, which was installed in September, 1941. Four photostat clerks were kept busy on day and night shifts for four months. At the present time, one part-time and two full-time men can handle this work.

It is estimated that 116,000 certificates of vital records were filed in 1942 in this division and that there was an average of 16,000 to 17,000 certified copies issued monthly, or a total of about 200,000 the past year.

The spotlight has especially been on the Certificates of Delayed Birth Registration, and the Adoptive Birth Certificates, which were provided for by the passage of two bills at the last session of the Unicameral Legislature.

Legislative Bill No. 22 provides for the issuing of Certificates of Delayed Birth Registration by the County Judges over the state. This is a legal procedure in which the applicant submits certain evidence sufficient to satisfy the judge as to the place and date of this birth, and as to his citizenship through his parentage. This law has increased the work of the county judges over the state greatly, as well as the Division of Vital Statistics, but it has made possible the filing of approximately 75,000 Certificates of Delayed Birth Registrations since March 4, 1941. The fees connected with this procedure total $3.50. The judge's fee, which goes to the general fund of each county, is $2.00 for each certificate issued; there is a filing fee of $1.00, and a fee of fifty cents for a photocopy, if desired, which is payable through the judges to the Division of Vital Statistics. The law states that a personal appearance before the judge is necessary, by the applicant, a relative, or a friend informed in his or her behalf.

Adoptive Birth Certificates were provided for by Legislative Bill No. 500, whereby a foster parent or a foster child may appear before the County Judge of the county where the Adoption Decree was granted, and secure a birth certificate, showing the child's adoptive name, and the foster parents as the natural parents of the child. The Bill has also proven to be a very popular and helpful one. Most judges require a certified copy of the original birth certificate of the child for their permanent files, and the Division of Vital Statistics must receive a copy of the Adoption Decree for filing, along with the Adoptive Birth Certificate, which is issued by the county judge. There is a fee of fifty cents required for each certified copy of the certificates that is desired. In the event the foster parents do not wish to acquaint the child with the circumstances surrounding its birth, the Adoptive Birth Certificate is a kindness to the child and will save much embarrassment perhaps in the future. This bill was passed in May, 1941, and it is estimated that 2,000 Adoptive Birth Certificates will be filed in this Division by December 31, 1942.

During the past year and a half a Master File, under the Russel-Soundex System, has been in the process of installation. This has taken many hands and many months of work, and the permanent indexes and files should be completed within the next sixty days. This file will include all certificates of regular births, delayed birth registrations, adoptive births, deaths, marriages, divorces, and annulments.

At this writing this master file contains approximately:

1,047,300 regular births;
75,000 delayed birth registrations;
2,000 adoptive births;
485,277 deaths;
405,500 marriages.
83,721 divorces.
700 annulments.

Birth certificates have many values. Now is the time to establish a record of birth. The physician and coroner, the undertaker, the local registrar, and the county judges all play an important part in building the master file in the Division of Vital Statistics.

DEATHS

Johnson, John M., Hartington, Nebr., born in Kansas in 1875, graduated from Creighton Medical College in 1915, went to Cedar County in 1916, and located at Fordyce. In 1920 he went to Hartington where he established St. Johns Hospital, which he operated until the time of his death on October 17, 1942. The doctor is survived by the widow, a daughter and a son.

Martin, Leo Paul, Missoula, Mont., formerly of Cook, Nebr., was killed in an airplane crash the middle of October, 1942. He was born in 1903, graduated from Creighton in 1927. Surviving are his wife and two children.

EXIGENCY OF WAR

Oleum Percomorphum 50% is now known as Oleum Percomorphum 50% with Viosterol. The potency remains the same: namely, 60,000 vitamin A units and 8,500 vitamin D units per gram. It consists of the liver oils of percomorph fishes, viosterol, and fish liver oils, a source of vitamins A and D in which not less than 50% of the vitamin content is derived from the liver oils of peroomoprh fishes (principally Xiphias gladius, Pneumatophorus diego, Thunnus thynnus, Stereolepis gigas, and closely allied species).—Mead Johnson & Co., Evansville, Ind., U. S. A.

ROSTER OF NEBRASKA PHYSICIANS IN MILITARY SERVICE

As of November 15, 1942

- ADAMS COUNTY
  - Anderson, Martin F., Hastings
  - Coen, Robert A., Ingleside
  - Foote, Conovan B., Hastings
  - Harrington, A. E., Hastings
  - Kingsley, D. W., Hastings
  - Nielsen, Juul, Ingleside
  - Proffitt, Jonas A., Hastings
  - Shaw, W. L., Hastings
  - Uridil, C. F., Hastings
- BOX BUTTE COUNTY
  - Kennedy, J. F., Alliance
  - Kuncl, Joseph, Alliance
  - Seng. O. L., Alliance
  - Sorensen, C. N., Alliance
- BROWN COUNTY
  - Prescott, Kenneth E., Long Pine
- BUFFALO COUNTY
  - Dickinson, L. E., Ravenna
  - Hayes, C. B., Kearney
  - Gass, Chas. C., Kearney
  - Raasch, Frank, Kearney
- BURT COUNTY
  - Crellen, Henry G., Lyons
  - Lukens, Isaiah, Tekamah
- BUTLER COUNTY
  - Drasky, Stanley, Linwood
- CASS COUNTY
  - Eaton, Wilbur S., Plattsmouth
  - Kunkel, L. N., Weeping Water
  - Formanak, C. J., Murdock
  - Worthman, H. W., Louisville
- CEDAR COUNTY
  - Gibson, Paul, Laurel
  - Hay, Wm., Laurel
- CHEYENNE COUNTY
  - Bitner, C. U., Sidney
  - Collison, R. L., Sidney
- COLFAX COUNTY
  - Myers, H. D., Schuyler
  - Tepley, Gene L., Howells
- CUMING COUNTY
  - Collins, Leigh Geo., West Point
  - Krause, Richard A. West Point
  - Thompson, L. L., West Point
- CUSTER COUNTY
  - Blair, Jas. B., Broken Bow
- DAWES COUNTY
  - Chamberlain, C. L., Chadron
  - De Flon, Eric G., Chadron
  - McElligott, E. W., Chadron
- DAWSON COUNTY
  - Harvey, Bernard, Gothenburg
  - Norall, V. D., Lexington
  - Olsson, Paul Bryant, Lexington
- DEUEL COUNTY
  - Smith, N. R., Big Springs
  - Witham, Roy G., Chappell
- DODGE COUNTY
  - Borgmeyer, Henry J., Dodge
  - Merrick, A. J., Fremont
  - Merselis, Harold K., North Bend
  - Morrow, H. H., Fremont
  - Sobota, J. E., North Bend
- DOUGLAS COUNTY
  - Holden, W. J., Elkhorn
- OMAHA
  - Alder, Verne, Int.
  - Alliband, Geo. T.
  - Avery, Hiram Henry
  - Ayers, Le Roy J.
  - Azorin, Louis A.
  - Bach, Stanley M., Int.
  - Barber, Herbert Gordon
  - Barr, Joseph Harold
  - Best, R. Russell
  - Bohnen, Loren C., Int.
  - Bowers, Warren F.
  - Brazer, John C.
  - Brown, James Matthew
  - Burns, B. C.
  - Carle, Donald Edgar
  - Carp, Oscar
  - Cash, Paul T.
  - Cochran, Robt. M., Int.
  - Coder, Harold Eastman
  - Cohen, Louis Allen
  - Comine, Jos. J.
  - Crawford, Wm. Henry
  - Crynes, S. F.
  - Curti, Ralph Elmer
  - Day, Robt. Jerome, Int.
  - Deakin, Thos. Wm.
  - De Long, Henry Livesey
  - Dolce, Daniel D., Int.
  - Dornberger, G. R.
  - Downing, John Edwin
  - Dworak, Henry L.
  - Dillworth, Warren Miller
  - Dingman, Cecil Walker
  - Eagle, Frank Lewis
  - Erman, Eugene Dobrin
  - Everitt, Neill J.
  - Estill, Robt. Reeve
  - Faier, Samuel Z.
  - Fair, Geo. Kenneth
  - Fairchild, John, Int.
  - Fenton, Bryan C. T.
  - Fellman, Abe C.
  - Finegan, Jas. F.
  - Finlayson, Alister I.
  - Finley, Robt. Herbert
  - Fogarty, Chas. James
  - Freed, Albert E.
  - Freymann, J. J.
  - Garcia, Hector P., Int.
  - Gatewood, John W.
  - Gore, Arthur, Int.
  - Greco, Anthony S., Int.
  - Green, M. C.
  - Greenberg, Maynard
  - Greene, Arthur M.
  - Gridley, L. J., Int.
  - Gross, Jos. J.
  - Green, Chas. Joseph
  - Hankins, Chas. Robt.
  - Hansen, Clifford H.
  - Harms, H. H., Int.
  - Hardy, C. C.
  - Hartford. Thos. J.
  - Hayes, Jack Murray
  - Hennegan, Geo. F.
  - Henrich, Leo Chas.
  - Heywood, Leo T.
  - Hoekstra, Clarence S.
  - Haffke, Oscar William
  - Holden, Walter J.
  - Horwich, Joe Maurice
  - Hungerford, Wm. E.
  - Iwersen, Frank J.
  - Jenkins, Paul Hamilton
  - Jensen, Marshall Nelson
  - Jonas, A. F.
  - Kelley, J. Whitney
  - Kelley, Wm. E.
  - Kiltz, Richard Clyde
  - Klabenes. Frank J.
  - Knauff, Harry A., Int.
  - Korth, Zeno N.
  - Koutsky, Jas. John, Int.
  - Krieg, Jacob J., Int.
  - Levine, Victor E.
  - Le Mar, J. D.
  - Lempka, Arnold, Int.
  - Lierman, C. E., Int.
  - Linsman. Jos. Francis
  - Longo, Chas. A., Int.
  - Longo, Jos. A.
  - Loudon, Jas. De Loss
  - Lovgren, Robt. Ellsworth
  - Luscombe, Harold Bradley
  - Mackenbroch, F. C.
  - Maloney, W. Robt., Int.
  - Mangiameli, Carl L.
  - Mangimelli, Saml. T.
  - Martin, Paul J.
  - McLaughlin, Chas. W.
  - Meehan, John William
  - Millett, Clinton C.
  - Moran, C. S.
  - Mooter, Chas. J., Int.
  - Morrow, Paul
  - Muldoon, John H.
  - Murphy, Alhert V.
  - Mossman. Frank D.
  - Nemec. Edward Chas.
  - Neurnherger, Robt. E.
  - Niemeyer. Arnold Carl
  - O'Brien, Donald J.
  - Oppen, Ralph L.
  - Osheroff, Hyman R.
  - Osheroff, Wm.
  - Owen, D. R.
  - Patton. John Erwin
  - Peck, W. R., Int.
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OUR MEMBERS IN THE ARMED FORCES

The Journal is desirious of supplying the latest information about the members of the Nebraska State Medical Association in the Armed Forces. Data will be brought up to date as information is received. Readers are urged to cooperate in this effort. Drop a postcard to the Editor, 220 Medical Arts Building, Omaha.

Capt. A. J. Schwedhelm of Norfolk reported for Army duty in Fitzsimons hospital in Denver, Oct. 26.

Dr. James A. Smrha of Cedar Rapids, Ia., son of Dr. V. V. Smrha of Milligan, is at Carlisle Barracks, Pa.

Lt. A. J. Merrick of Fremont is with the Coast Artillery Anti-Aircraft Detachment at Burbank, Calif.

Capt. R. R. Donley, formerly of Blair, is at Fitzsimons General Hospital in Denver.

Dr. Robert Johnson of Lincoln is stationed at Camp Howze, Tex.

Lt. Gordon Prachar of Tecumseh is at Camp Chaffee, Ark.

Capt. Forrest Rose, formerly of Omaha, is somewhere in the South Pacific.

Lt. (sg) R. D. Sinclair, formerly of Chadron, is in the Navy stationed at San Diego, Calif.

Capt. Ernest Lennemann of Falls City reported for duty at the Aviation Cadet Center in San Antonio, Nov. 6.

Lt. Col. Donald J. Wilson of Omaha is Post Surgeon and Commanding Officer of the new Station Hospital at Camp Dodge, Ia.

Major Joseph Kruml of Ord is at the Station Hospital, Jefferson Barracks, Mo.

Capt. S. H. Brauer of Norfolk is stationed at Avis Flying Field, San Antonio, Tex.

Lt. Kenneth W. Brown of Stratton reported for Army duty early in November.

Capt. Clarence R. Brott of Beatrice, is on detached duty at Barnes Hospital in St. Louis.

Dr. Arthur Bryant of Beatrice is at Medill Field, Tampa, Fla.

Capt. T. E. Dent of North Platte is stationed at the Recruiting and Induction Center in San Francisco, Calif.

Capt. Victor C. Norall of Lexington is at Camp Young, Indio, Calif.

Lt. Commander J. Marshall Neely of Lincoln is at Great Lakes Naval Training Hospital.

Lt. Commander W. A. Campbell of Lincoln is at Pearl Harbor, Hawaii.

Capt. James Podlesak of Lincoln is at the Army Air Base, Pueblo.

Dr. Charles McLaughlin of Omaha reported for Navy duty in November. His rank is that of Lt. Commander.

Dr. Paul Morrow of Omaha entered the Army Medical Corps on Nov. 21 as captain.

Lt. Col. Warner F. Bowers has been transferred from Camp Chaffee, Arkansas, to Station Hospital, Camp Gruber, Okla.

Dr. J. P. Redgwick of Omaha has been commissioned Lt. Commander, U. S. N. R., and will leave Omaha soon for Bainbridge, Maryland.

Captain Sylvester Crynes of Omaha is stationed at O'Reilly General Hospital, Springfield, Mo.

Lt. George Thomas Alliband, U. S. N. R., reported for duty at Naval Hospital, Farragut, Idaho, in November.

Word is received that Lt. J. J. Comine in charge of the Service Command Infirmary, Camp Carson, Colorado, will address a meeting of all officers stationed at the camp on the function of an infirmary and the duties of the officer in charge.

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Dr. George DeMay, formerly of Shelton, has located in Grand Island.

Dr. William Shepherd of Rulo has located in Falls City.

Dr. Paul V. Barnes of Norfolk State Hospital addressed the Norfolk Woman's Club on War Hysteria, in October.

Dr. J. F. Shramek of Wilber, Dr. W. S. Franklin of Scottsbluff, and Dr. H. M. Robbins of West Point, attended the Interestate Medical Assembly in Chicago the latter part of October.

Dr. George Pinney addressed the Longfellow Parent-Teacher association of Hastings, the latter part of October.

Dr. Esther I. McEachen attended University of Minnesota Center of Continuation Study, October 5-11, taking the course in Kenny Technic in treating Infantine Paralysis with Sister Kenny, et al.

The following item is taken from the Lincoln Star of Nov. 11:

Fourteen of the fifteen original members of the Last Man club of Lincoln met for their annual luncheon Armistice day at the Cornhusker hotel. A wreath was placed on the grave of Major J. M. Mayhew, deceased member, in accordance with the annual custom.

Capt. A. D. Munger was the host at the annual banquet at the Cornhusker Wednesday night. Taps were sounded and a place was set for the departed member.

The club was organized after the signing of the armistice by fifteen Lincoln doctors who served in France during the first World war. All living members meet each year on Armistice day. A custom of the club is that a place be set at the banquet table for each member, living or dead. This procedure will be followed until the last member passes away, Captain Munger explained.

Members attending the annual meeting were Col. H. W. Orr, Major E. W. Rowe, Capt. George H. Walker, Capt. J. J. Hompes, Capt. A. D. Munger, Capt. C. C. Hickman, Capt. T. C. Moyer, Lieut. George W. Covey, Lieut. Fred W. Webster, Lieut. Stanley Zemer, Lieut. H. E. Flansburg, Lieut. J. E. M. Thomson, Lieut. M. J. Breuer and Lieut. R. L. Smith.

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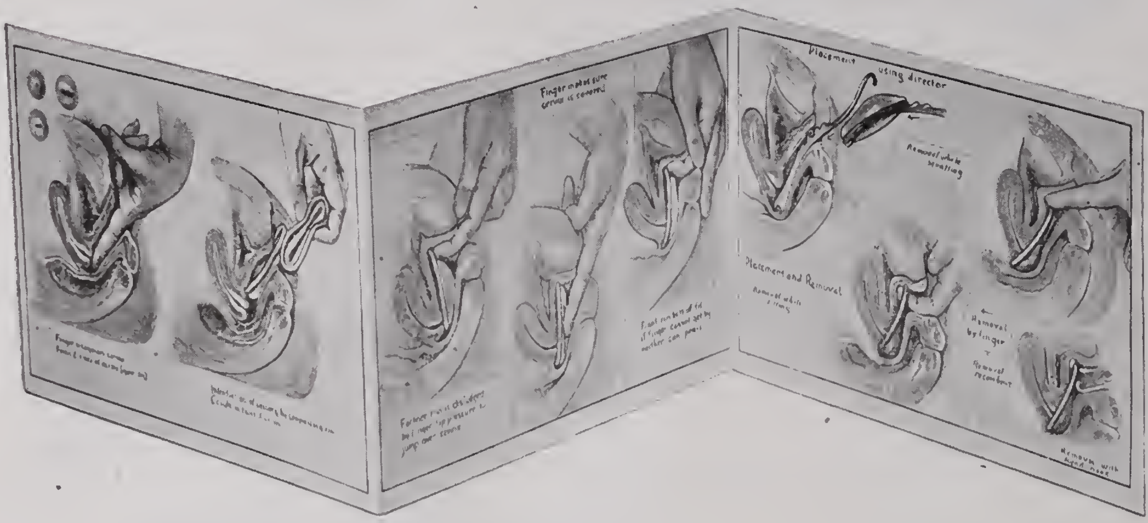

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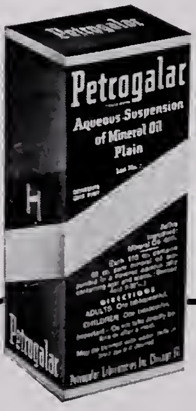

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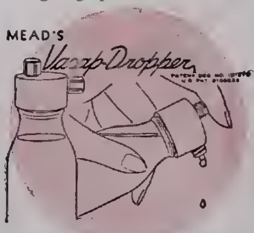

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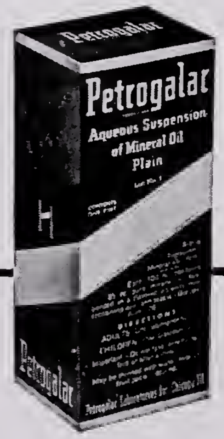

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